

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module		
Module name		Animal physiology	
Module code		1BL_23_23	
Number of the ECTS credits		4	
Language of instruction			
Purpose and description of the content of education		<p>The module aims to provide the student with (1) knowledge of the functions of the animal's body in terms of understanding the systems and mechanisms that protect life processes, mechanisms of regulation of physiological processes, and functional relationships between the environment and the animal in a comparative and broader aspect, taking into account human physiology; (2) obtaining practical skills to perform experiments and analyze selected parameters characterizing the functions of various animals, their proper development and interpretation of results verified based on available source materials.</p> <p>Lectures cover aspects of phenomena integrating body functions with various physiological regulation mechanisms. Based on the knowledge obtained about the systems and mechanisms that maintain the animal's life and the relationship between the animal and the environment, the student learns about the phenomena associated with maintaining homeostasis and repair mechanisms.</p> <p>Conversation classes enable students to read additional literature related to animal physiology (other optional textbooks, popular science articles, and review publications). They allow the student to express himself in a broader scope on the issues covered by the course curriculum. They enable discussion on selected problems and allow for discussion of emerging doubts. To a large extent, they enable conducting classes at a high substantive level in those topics where it is difficult to perform experiments or laboratory measurements.</p> <p>Laboratory classes teach students to conduct experiments, measure selected physiological parameters and observations, properly process the collected data and analyze them, prepare adequate protocols and conclusions from the tasks performed, as well as the ability to verify them based on available source data. They also teach bioethical behavior towards experimental animals and the ability to use alternative physiological models or virtual laboratories where experiments on vertebrate animals cannot be carried out. Thus, the student acquires the ability to use other available sources of information (films, computer animations, computer models).</p>	
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)
01		Explains the basic principles governing the life activities of animals and knows the mechanisms for maintaining life		

	processes and physiological regulations securing the integration of the organism.	1BL_W03 1BL_W04	3 5
02	It describes the interactions between the organism and its environment. It indicates the appropriate mechanisms for exchanging components that build the animal's body, defense mechanisms against stressors, and proper protection of reproductive functions dependent on the environment.	1BL_W04	2
03	Uses the knowledge about methods and research techniques used in physiological experiments to learn and understand the complexity of physiological processes at various levels of integration, from the cell to the organism.	1BL_U12 1BL_W08	4 3
04	Uses a variety of available sources of information on the physiological sciences and uses them to analyze in a targeted manner the interrelationships between individual systems in securing the body's homeostasis in various conditions of the internal and external environment.	1BL_U03	4
05	Operates independently laboratory equipment and apparatus to measure various physiological parameters and preparations. He collaborates in this area with other students from the group	1BL_U11 1BL_U12	4 2
06	The student is well-versed in current research directions in physiology, especially those related to the connections between physiology and other areas of knowledge. This enables an understanding of the processes determining the organism's homeostasis.	1BL_U10	3
07	Critically assesses information on the body's functional capabilities, generally available in the mass media, especially in Internet sources and popular science press, and tries to correct them based on the acquired knowledge.	1BL_K01 1BL_K04	2 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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>

		<i>analysis and evaluation of a selected phenomenon</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
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>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work

		<i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</i>
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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
01	lecture	20	exam	01, 02, 06	a01, b01, c07, f01
02	discussion classes	14	course work	03, 04, 07	a03, b02, b07, b09, c02, d01, f02, f03
03	laboratory classes	36	course work	01, 04, 05	a03, a05, b07, d01, e01, e06, e07, e08, f02

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>	Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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
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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>a set of activities aimed at performing an assigned task, to be executed out of class, as an obligatory</i>	Yes

		<i>phase/element of the verification of the learning outcomes assigned to the course</i>	
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

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5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Basics of immunology
Module code		1BL_23_67
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module imparts knowledge of human and animal (invertebrate and vertebrate) immunology, particularly emphasizing the molecular basis of the defense response to pathogenic microorganisms. The student is introduced to the issues of the interaction of acquired and innate immunity. They get acquainted with the elements forming the immune system and the role of this system in the organism's homeostasis, and the structure and function of antigens and antibodies. The aim of the module is for the student to acquire: (1) general knowledge of the structure and function of the immune system, (2) the ability to plan and carry out simple experiments, observations, and analyses, (3) the competence to creatively express one's thoughts and opinions related to the functioning of defense mechanisms in humans and animals.
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)	
U03	Knows the theoretical basis of immunological tests. Knows how to perform serological tests, i.e., agglutination and precipitation.	1BL_U06 1BL_U11 1BL_U12 1BL_W02	5 4 4 4	
U04	Knows how to analyze and critically evaluate information from various scientific sources, including English-language sources. Has the habit of updating specialized knowledge and critically assessing the possibility of its practical use.	1BL_K04 1BL_K05 1BL_U13 1BL_U14	5 4 4 4	
W01	The student understands and can present the molecular basis of the defense response to pathogenic or other substances and bodies. Defines concepts and understands the interaction of acquired and innate immunity. Knows and describes the elements that make up the immune system. Can perceive the critical role of the immune system in the organism's homeostasis and indicate when the immune system can act to the detriment of the macroorganism. The student can present antigens' characteristics and antibodies' structure and function.	1BL_U04 1BL_U11 1BL_W04	4 4 4	

W02	He has detailed knowledge of the molecular basis of the pathogenesis of microorganisms; at the same time, he knows the mechanisms involved in the organism's defense against infectious agents (bacterial, viral).	1BL_U03	4
		1BL_U04	4
		1BL_W02	4
		1BL_W03	5

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
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>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied</i>

		issue			
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
01	lecture	15	course work	U04, W01, W02	a01, b02, c07, d01
02	laboratory classes	15	course work	U03, W02	a03, a05, c06, e01, f02
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
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>			No
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>			Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>			No
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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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>			No
c02	Preparation for verification of learning outcomes	Studying the literature used in and the materials produced in class			No

		<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>	
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

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4.	Level of qualifications/degree	first-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Basics of mycology
Module code		1BL_23_08
Number of the ECTS credits		1
Language of instruction		
Purpose and description of the content of education		Aims: to explain and approximate the systematic position of fungi and fungi-like organisms, taking into account the latest trends in systematics. The module introduces and discusses the systematic position of fungal biota (fungi and fungus-like organisms) based on various biological criteria of these organisms. It includes a review of the diversity of the phyla and classes of myxomycota, fungi and lichenized fungi (lichens) along with an approximation of the issues of development cycles, phylogeny and evolutionary tendencies. The content includes: - characteristics of concepts related to the biology and morphology of fungi and fungus-like organisms; - systematic review of groups of fungi and fungus-like organisms. The use of fungal and fungus-like organisms by humans and the main threats caused by these organisms are also discussed.
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)
W1	student demonstrates an appropriate level of knowledge and understanding of biological terminology appropriate for the studied field and related fields	1BL_K04	1	
		1BL_W02	2	
		1BL_W08	1	
W2	has knowledge about the differences in the structure of prokaryotic and eukaryotic cells, as well as knowledge about the organization of fungal tissues, organs and functional relationships between them	1BL_U01	1	
		1BL_W03	1	
W3	has basic knowledge of the classification of fungal organisms against the background of general biological diversity, understands the phenomena and natural processes that shape it	1BL_W07	1	
		1BL_W08	1	
W4	actively participates in debates, seminars, discussions, is able to present and evaluate various opinions and positions, is able to work independently and with a group during teamwork	1BL_U10	1	
		1BL_U11	1	
W5	knows the principles of health and safety at work	1BL_W12	1	

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>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c07	Demonstration methods	Screen presentation <i>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</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>

f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01Kw	discussion classes	5	course work	W1, W2, W3, W4	a01, a05, b02, b04, c02, c07, d02, d03, f02, f03
02L	laboratory classes	10	course work	W1, W2, W3, W5	c01, c02, c07, e01, e06, f02

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>	Yes
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>	Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic</i>	Yes

		<i>teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Basics of nanotoxicology
Module code		1BL_23_69
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>The course's main objective is to introduce students to the fundamentals of toxicology focused on the effects of products resulting from the latest achievements in nanotechnology on humans and the environment. This introductory course covers basic research methods in nanotoxicology, issues related to the impact of nanoparticles on organisms, absorption pathways, the fate of nanoparticles in cells, organisms, and ecosystems, as well as their excretion and responses to nanoparticle-induced stress in terms of dosage and duration of exposure. The primary idea of the course is to raise awareness among students about the ubiquitous presence of nanoparticles and nanomaterials in human life and the surrounding environment, as well as to highlight the potential hazards they may pose.</p> <p>The goals of this course are for students to (1) acquire basic knowledge regarding the effects of new materials and products manufactured using nanotechnology on humans and the environment; (2) develop skills in planning and conducting simple experiments, observations, and analyses of selected parameters characterizing the life functions of different organisms under stress caused by the presence of nanoparticles in their environment; (3) demonstrate competence in expressing their thoughts and views related to the development of civilization and science, including nanoethics, as well as the importance of raising societal awareness regarding the hazards associated with the misuse and/or uncontrolled introduction of nanoparticles into the environment.</p>
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)	
K01	Identifies hazards arising from organism exposure to the effects of specific nanoparticles.	1BL_K02	2	
		1BL_K04	3	
		1BL_K05	1	
U01	Prepares reports, interprets research results based on statistical analyses, and evaluates limitations from the methods and research tools employed.	1BL_U01	2	
		1BL_U02	3	
		1BL_U04	1	
		1BL_U07	3	

		1BL_U10	2
		1BL_U11	3
		1BL_U12	2
U02	Can assess the credibility of information based on its source and utilize it in the process of self-education.	1BL_U03	4
		1BL_U04	1
		1BL_U10	1
		1BL_U11	2
		1BL_U12	2
		1BL_U14	1
		1BL_U15	2
W01	Knows and understands the interrelationships between chemical composition and dosage, as well as the strength and range of action of selected nanoparticles on organisms.	1BL_W01	2
		1BL_W02	3
		1BL_W04	3
		1BL_W08	1
		1BL_W09	1
W02	Knows and understands the mechanisms of nanoparticle action and the methods of detoxification in various organisms, as well as evaluates the direct and indirect effects of nanoparticle activity in the environment.	1BL_W01	2
		1BL_W02	2
		1BL_W03	2
		1BL_W04	4
		1BL_W08	1
W03	Is familiar with appropriate methods and research tools used in experimental toxicology that can be applied to assess the toxicity of nanoparticles.	1BL_W01	1
		1BL_W02	1
		1BL_W08	3
		1BL_W09	1
		1BL_W13	1

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b01	Problem-solving methods	Problem-based lecture

		<i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b04	Problem-solving methods	<p>Activating method – discussion / debate</p> <p><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></p>
b07	Problem-solving methods	<p>Activating methods: a case study</p> <p><i>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</i></p>
c05	Demonstration methods	<p>Poster presentation</p> <p><i>a visual presentation of a problem and its proposed solutions, created by the person teaching the course or by a student on a poster board showing one major element or a collection of several elements in a coherent graphic form</i></p>
c06	Demonstration methods	<p>Demonstration-imitation</p> <p><i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i></p>
c07	Demonstration methods	<p>Screen presentation</p> <p><i>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</i></p>
d01	Programmed learning methods	<p>Working with a computer</p> <p><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></p>
e01	Practical methods	<p>Laboratory exercise / experiment</p> <p><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></p>
f01	Methods of self-learning	<p>Self-education</p> <p><i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i></p>
f02	Methods of self-learning	<p>Individual work with a text</p> <p><i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i></p>
f03	Methods of self-learning	Conceptual work

		a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work
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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
K01	discussion classes	25	course work	K01, U02, W01, W02, W03	b01, b04, b07, c05, c07, d01, f01, f02, f03
L01	laboratory classes	20	course work	K01, U01, U02, W01, W02, W03	a03, a05, c06, e01, f01, f02, f03

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>	Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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



e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i>	No
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Basics of plant development biology
Module code		1BL_23_55
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		The course covers basic knowledge on plant development biology, introduces the student to embryonic and post-embryonic development and mechanisms of biochemical and biophysical regulation of these processes. The student acquires the ability to perform, analyze and interpret own observations of developmental processes and their experimental verification. The course includes topics related to development of the sporophyte and gametophyte, sporo- and gametogenesis, development of the embryo (determination of the body axis), development of meristems including organogenesis, the functioning of stem (initial) cells, and the role of genetic and biomechanical factors in the morphogenesis of organs such as shoot, leaf, flower, root. By participating in this course, the student will see principles of plant development processes and notice the similarities and differences in mechanisms regulating these processes.
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)	
K01	The student understands the importance of knowledge in solving problems, is able to critically assess his/hers knowledge and is ready to consult experts in case of difficulties with independent problem solving.	1BL_K01	5	
U01	The student is able to select and use available sources of information, synthesize and evaluate the obtained data, formulate conclusions and participate in discussions; plan and perform observations and simple experiments on plant development, prepare documentation of observations or experiments, use techniques and tools for observation and measurement in plant development research; work independently and communicate with the group during teamwork.	1BL_U01 1BL_U03 1BL_U06 1BL_U08 1BL_U09 1BL_U10 1BL_U11	5 4 5 5 5 4 4	
W01	The student knows and understands the functioning of plant organisms at various levels of organization (cells, tissues, organs), understands the relationship between genetic and biophysical processes affecting the development of plants, and the influence of the environment.	1BL_W01 1BL_W03	4 4	

		1BL_W04	5
9.	Methods of conducting classes		
Code	Category	Name (description)	
a02	Lecture methods / expository methods	Monographic lecture <i>an exhaustive discussion of one issue, usually related to the research interests of the person teaching the course or a thorough presentation of one selected issue</i>	
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>	
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>	
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>	
c07	Demonstration methods	Screen presentation <i>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</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>	
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>	
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>	
f03	Methods of self-learning	Conceptual work	

		<i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</i>
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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
01	laboratory classes	36	course work	K01, U01, W01	a03, b01, b04, c07, e01, f02, f03
02	discussion classes	9	exam	K01, U01, W01	a02, a03, b02, c07, f01, f02

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>	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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
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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
e03	Activities complementary to the classes	Participation in non-obligatory teaching, research or organizational grants intensifying the achievement of the assumed learning outcomes <i>research, artistic, social and other activities not indicated in the curriculum, undertaken on the student's own initiative as a way of supplementing, enriching or extending the content and activities indicated in the module curriculum, intensifying the achievement of learning outcomes</i>	No

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module		
Module name		Bbiocatalysts	
Module code		1BL_23_59	
Number of the ECTS credits		3	
Language of instruction			
Purpose and description of the content of education		<p>The aim of the course is for the student to obtain the following:</p> <p>(1) extended knowledge in the field of biocatalysis and biocatalysts</p> <p>(2) the ability to plan and carry out simple experiments, observations and analyses of selected parameters characterizing protein biocatalysts;</p> <p>(3) the ability to creatively express one's own thoughts and thresholds related to biocatalysis processes.</p> <p>The main assumption of the module is to introduce the student to the topic of catalytic and regulatory strategies, which are crucial for efficient biocatalysis. During the course, research methods of biocatalysts and methods of their application and protection for biotechnological processes will be discussed. The overriding idea of the course is to make the student aware of the omnipresence of biocatalysts in human life and the biotechnology industry, as well as to draw attention to the benefits of their use.</p> <p>Lectures include extended knowledge of the structure and characteristics of biocatalysts, catalytic and regulatory strategies, abzymes and synzymes as examples of biocatalysts, and methods of protecting protein biocatalysts.</p> <p>The laboratory covers the basics of planning experiments, performing simple measurements and observations related to determining the influence of physical and chemical factors on enzyme activity, processing collected data and their presentation.</p>	
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)
01	Defines the basic concepts and processes related to biocatalysts	1BL_W01	4	
		1BL_W02	4	
02	Plans experiments allowing for the characterization of protein enzymes.	1BL_U01	5	
		1BL_U06	5	
		1BL_W08	4	
03	Analyzes the obtained results and draws correct conclusions	1BL_U02	3	
		1BL_U03	4	

		1BL_U08	5
		1BL_W01	4
		1BL_W09	3
04	Specifies the conditions of biocatalysis	1BL_U01	4
		1BL_W04	3
05	Builds own experimental setups using enzymatic methods	1BL_W01	4
		1BL_W05	3
		1BL_W06	5
		1BL_W08	3
06	Revises theses depending on the results obtained	1BL_K01	3
		1BL_U03	3
		1BL_U08	4
07	Adapts to the difficulties that arise during the experiment	1BL_K01	4
		1BL_U11	4
		1BL_U12	4
08	Solves problems related to broadly understood biocatalysis in a group	1BL_K01	5
		1BL_K04	4
		1BL_U03	4
		1BL_U11	5

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>
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>

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
01	lecture	10	course work	01, 02, 04, 05	a01
02	laboratory classes	20	course work	01, 02, 03, 04, 05, 06, 07, 08	e01
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>			Yes
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>			Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>			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>			No
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>			Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>			Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Biochemistry for biologists
Module code		1BL_23_19
Number of the ECTS credits		5
Language of instruction		
Purpose and description of the content of education		The module introduces the student to the basic knowledge related to the structure of proteins, nucleic acids, carbohydrates and lipids. It introduces the ways in which genetic information is transferred within a cell and the metabolism of biologically important macromolecules. Students will learn about the cellular organisation of metabolic processes and their structural and functional interrelationships. In addition, the student will learn how formation and storage of energy in the cell. In independently conducted experiments the student acquires manual skills in laboratory work. By collecting empirical data, he/she improves the ability to analyse and interpret the results of the observations made.
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)
1BL_23_19_01	Operates with knowledge of the laws of physics and chemistry.	1BL_W01		5
1BL_23_19_02	Describes the structure, function and metabolism of carbohydrates, lipids and nitrogen compounds (amino acids, proteins, nucleic acids) in prokaryotic and eukaryotic cells.	1BL_W02		4
		1BL_W03		5
1BL_23_19_03	Demonstrates knowledge of the integration of metabolism, energy formation and storage in the cell	1BL_U03		4
		1BL_W04		4
1BL_23_19_04	Carries out research tasks in the laboratory under the guidance of a supervisor, analyses the results, constructs conclusions and presents them in the form of a report.	1BL_K01		4
		1BL_U01		5
		1BL_U02		2
		1BL_U03		4
		1BL_U12		5
1BL_23_19_05	Follows the rules of the laboratory and takes care of his/her own and others' safety. Respects the equipment entrusted laboratory equipment entrusted to him/her.	1BL_U11		5
		1BL_W12		5

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>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
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>
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>

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
1BL_23_19_fz_1	laboratory classes	45	course work	1BL_23_19_01, 1BL_23_19_02, 1BL_23_19_03, 1BL_23_19_04, 1BL_23_19_05	b09, c06, d01, e01
1BL_23_19_fz_3	lecture	25	exam	1BL_23_19_01, 1BL_23_19_02, 1BL_23_19_03	a01, a05, b02

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>		Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope		No

		or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Biogeochemistry
Module code		1BL_23_34
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The Biogeochemistry module allows the student to become familiar with: natural and anthropogenic sources of metals in the environment and the influence of physicochemical factors on the mobility and bioavailability of metals in soils, waters and air; the influence of living organisms on the migration of metals in soils; the content of metals in unpolluted and polluted environments as a result of human activities; methods for determining the bioavailability of metals; the effects of metals on microorganisms, plants, animals and humans; biomarkers for determining human exposure to heavy metals. The student is also introduced to the concept of PTWI. The student also acquires the skills to work in small groups.
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)
1BL_23_34	The student presents natural and anthropogenic sources of selected heavy metals and aluminium in the environment. Describes the mechanisms that determine the mobility and bioavailability of metals in the natural environment. Can demonstrate the relationships between the physicochemical properties of the environment and the bioavailability of metals and their effects on microorganisms, plants and animals. Explains the processes involved in the effects of metals on animals and humans, for example: absorption pathways, excretion pathways, mechanism of toxic effects of metals. Is familiar with the concept of PTWI. Presents the most commonly used biomarkers of toxic effects of metals. Demonstrates the accumulation sites, bioavailability and migration pathways of metals in different zones of the earth and their effects on living organisms.	1BL_K01	4
		1BL_K02	2
		1BL_K04	4
		1BL_K05	4
		1BL_U03	4
		1BL_U04	5
		1BL_U10	3
		1BL_U11	5
		1BL_U13	3
		1BL_U15	1
		1BL_W01	5
		1BL_W02	3

		1BL_W04	5
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>	
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>	
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>	
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>	
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>	
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>	
c07	Demonstration methods	Screen presentation <i>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</i>	
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>	
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>	
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>	

f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</i>
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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
01	lecture	30	course work	1BL_23_34	a01, a03, b01, b02, c07, d02, d03, f02
02	discussion classes	15	course work	1BL_23_34	b08, b09, c07, d02, d03, f01, f02, f03

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>	Yes
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>	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope	Yes

		<p>or depth of the teaching content, also beyond the walls of the University</p> <p><i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i></p>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Biological invasions
Module code		1BL_23_41
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>The scope of the course covers the issues of biological invasions (plants and animals) and their natural, social, and economic consequences. The student learns the terminology used in the ecology of invasions, the history, and directions of research on invasive species. The subject allows you to get to know the chosen alien species of plants and animals in Poland and in the world, their origin, pathways of introduction and spread, and the pace of migration. It discusses invasion models and presents methods and programs for combating invasive alien species in relation to applicable legal regulations (national and international).</p> <p>It points to the latest theoretical and practical achievements in invasion ecology and discusses contemporary research programs and prospects for further research research, taking into account the issues of climate change and using the latest research tools and technologies (GIS, modeling).</p>
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)	
K01	The student discusses the natural, economic, and social consequences of biological invasions and the scale of the threat resulting from the introduction of species alien to the natural environment.	1BL_K01	4	
		1BL_K02	4	
K02	The student presents the need to raise public awareness of the effects of introducing invasive alien species and justifies the importance of preventing their spread.	1BL_K02	5	
		1BL_K05	4	
U01	Describes invasion routes (pathways) and invasion models of alien species.	1BL_U03	3	
U02	The student indicates current directions and methods of research on invasive alien species and explains the methods of combating and managing them.	1BL_U01	5	
		1BL_U03	4	
		1BL_U04	4	
W01	The student defines concepts and terms relevant to invasion ecology.	1BL_W02	5	
W02	Identifies invasive organisms representing various systematic groups (fungi and plants, invertebrates and vertebrates)	1BL_W04	4	

	and characterizes their ecological potential.	1BL_W07	4
W03	The student recalls and interprets the basic legal regulations regarding biological invasions in Poland, Europe, and the world.	1BL_W13	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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
c03	Demonstration methods	Audio playback / audio drama <i>preparation and reproduction of sound material (audio recording) in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as a method of sound perception, including the appreciation of a musical piece, an artistic audio drama, an oral presentation of an artistic or scientific text as well as a media text; analysis of the sound material recorded on a carrier with a view to studying a sound-related phenomenon</i>
c05	Demonstration methods	Poster presentation <i>a visual presentation of a problem and its proposed solutions, created by the person teaching the course or by a student on a poster board showing one major element or a collection of several elements in a coherent graphic form</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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</i>

		own by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline
d03	Programmed learning methods	Working with another teaching tool e.g. using websites in any way or according to the rules set by the teacher; or making use of other subject-specific tools
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
e06	Practical methods	Observation 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
e09	Practical methods	Plein air session implementation of a creative task in an open-air area, e.g. outside the studio
f02	Methods of self-learning	Individual work with a text searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue
f03	Methods of self-learning	Conceptual work a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work

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
01	lecture	10	course work	U01, U02, W01, W02, W03	a01, c03, c07
02	laboratory classes	35	course work	K01, K02, U01, U02, W01, W02, W03	a03, a05, b04, b07, c05, c07, d01, d03, e04, e06, e09, f02, f03

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		Yes
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		Yes
b01	Consulting the curriculum and the organization of classes	Getting acquainted with the syllabus content reading through the syllabus and getting acquainted with its content		Yes
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		Yes

		<i>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>	
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Biological weapons - toxins and venoms
Module code		1BL_23_83
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>1. The subject in the form of a seminar is intended to familiarize students with the phenomenon of toxicity and venom in the animal world. Students learn about the most important groups of venomous and irritating animals, venom organs, and mechanisms of action of venoms and toxins.</p> <p>2. Bee, wasp, tarantula, black mamba. These animals come from different groups, but they have one unique feature in common - they are venomous. They attack for defence or food. They sting and bite in a fraction of a second, injecting venom into the victim's body - a chemical substance that paralyzes or kills. Still, others spit and shoot acid, which effectively saves them from enemy attack. "Bioweapons" is a safe subject about dangerous animals, their venoms and toxins that can also heal and save lives.</p>
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)
K01	During classes and after the course, the student conducts an objective self-assessment of his own work, demonstrates the ability to work independently and in a team, has the habit of updating specialist knowledge, is able to creatively combine information in the field of economics, chemistry and law with biological knowledge, creating syntheses with significant explanatory power.	1BL_K01		3
		1BL_K04		4
		1BL_K05		4
U01	After completing the course, the student is able to name the most important types of toxins, understands the importance of biological sciences in the modern world, is able to describe the scheme of action of venom in a living organism, is able to list the types of first aid in bites and stings.	1BL_U03		3
		1BL_U04		4
		1BL_U09		4
		1BL_U10		4
		1BL_U11		4
		1BL_U15		4
W01	Knows the most important organisms and poisonous animals. Knows and understands the biology of selected groups of venomous animals. Knows the general structure of the venom teeth and sting. Understands the effects of venom and	1BL_W01		3
		1BL_W02		4

	toxins on living organisms.	1BL_W04	3
		1BL_W06	2
		1BL_W07	3
		1BL_W15	3

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c03	Demonstration methods	Audio playback / audio drama <i>preparation and reproduction of sound material (audio recording) in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as a method of sound perception, including the appreciation of a musical piece, an artistic audio drama, an oral presentation of an artistic or scientific text as well as a media text; analysis of the sound material recorded on a carrier with a view to studying a sound-related phenomenon</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>

d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	discussion classes	15	course work	K01, U01, W01	a03, b02, b07, b09, c02, c03, c07, d01, d02, e06, e07, f01, f03

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>		Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>		Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>		Yes
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to</i>		Yes

		<i>optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</i>	
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>	No
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Biology of animal and human development
Module code		1BL_23_25
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The course covers animal and human developmental biology. It familiarises the student with the stages of embryonic development of animals and man, the mechanisms of genetic regulation of these developmental processes and techniques of assisted human reproduction. The student acquires the skills of analysing and interpreting prepared microscopic slides showing processes involved in embryonic development (gametogenesis) and processes occurring during embryonic development (cleavage, gastrulation, differentiation of germ layers and formation of fetal membranes). In addition, the student also acquires the ability to use other available sources of information on animal and human embryonic development (films, computer animations, computer models and others).
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)	
K_1	Understands the importance of knowledge in problem-solving, can critically appraise his/her knowledge and is ready to consult experts when they have difficulties solving a problem independently.	1BL_K01 1BL_K03 1BL_K04	5 5 5	
U_1	Can use observation techniques and tools to study animal and human development. Correctly interprets analysed images combining theoretical knowledge with practical skills.	1BL_U01 1BL_U04 1BL_U08	5 5 5	
U_2	They can determine the level of their knowledge and skills, rationally plan and implement the self-learning process and correctly draw conclusions based on data from different sources.	1BL_U03 1BL_U09	5 5	
W_1	Defines terms used in animal and human developmental biology and describes the processes involved in embryonic development.	1BL_W02	1	
W_2	Understands the mechanisms of morphogenesis and the mechanisms of animal and human developmental processes regulation.	1BL_W04 1BL_W05	5 5	

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>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</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>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</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
01	laboratory classes	30	course work	K_1, U_1, U_2, W_1, W_2	a05, b04, c01, c02, c07, d03, e01, e06, f01
02	lecture	15	course work	W_1, W_2	a01, b01, c07
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
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>			No
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>			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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a</i>			No

		<i>laboratory, in the open air, etc.; also self-education</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Biometrics elements
Module code		1BL_23_03
Number of the ECTS credits		1
Language of instruction		
Purpose and description of the content of education		The module familiarizes students with the methods of planning experiments in the field of biological sciences, data collection, and statistical analysis using available software. During the course, students acquire the ability to formulate research questions and draw conclusions.
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)	
01	Can plan a biological experiment and correctly collect data	1BL_K01	2	
		1BL_U02	3	
		1BL_U08	3	
		1BL_U10	2	
		1BL_U11	2	
		1BL_W01	2	
		1BL_W09	4	
02	Can process the data collected in the experience, is able to systematize them	1BL_U02	3	
		1BL_U10	3	
		1BL_U11	3	
		1BL_W01	2	
		1BL_W08	2	
		1BL_W09	3	
		1BL_W13	1	
03	Can determine the values of basic descriptive statistics and correctly interpret the obtained results	1BL_U02	4	

		1BL_U10	3
		1BL_W09	4
04	Can use the available software to perform statistical analyses.	1BL_U02	3
		1BL_U11	3
		1BL_W09	3

9. Methods of conducting classes		
Code	Category	Name (description)
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</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>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	laboratory classes	15	course work	01, 02, 03, 04	a05, b01, b04, c07, d01, f01, f02, f03

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>		Yes
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
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>		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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Biomonitoring
Module code		1BL_23_60
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module allows gaining the knowledge and the ability to carry out selected analyses of the state and assessment of the natural environment in order to register changes, evaluate trends and changes in the quality of individual elements in relation to applicable regulations. The module aims to deepen knowledge about environmental threats, the quality of which is require for maintaining human health and the proper functioning of ecosystems. The module is application-oriented. The student acquires knowledge and skills on the use of the latest methods of environmental assessment and interpretation of the obtained results, is able to apply the known monitoring methods in practice and sees the need to implement this type of research. He understands the role of environmental monitoring as a source of information about the environment, which is important especially in the context of climate and environmental changes.
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)
01	Explains the basic concepts of biomonitoring, has knowledge about the general assumptions of environmental monitoring, knows the principles of conducting monitoring studies of the natural environment.	1BL_U09		5
		1BL_W01		5
02	He knows the principles of functioning of aquatic and terrestrial ecosystems, he is aware of the threat of the state of the natural environment.	1BL_K03		5
		1BL_U12		5
		1BL_W07		5
		1BL_W09		5
03	Can assess the state of the environment based on the deformity of the structure and function of ecological systems at the species, population and ecosystem level.	1BL_K01		5
		1BL_K04		5
		1BL_U07		5
		1BL_U08		5
		1BL_W04		5

04	Identifies and characterises indicator organisms used in the assessment of the ecological status of waters and pollution of terrestrial ecosystems, indicates the relationship between the ecological requirements of organisms and the state of the environment.	1BL_U04 1BL_W02	5 5
05	Independently and in a team measures the basic parameters used in the assessment of the state of the environment, applies the recommended research methods in practice. He understands the need to monitor the environment and the need to transfer knowledge about the state of the environment.	1BL_K03 1BL_U11 1BL_U12 1BL_W08	5 5 5 5
06	He sees the need to improve qualifications in the field of environmental protection. He knows the applicable legal acts and regulations regarding environmental monitoring.	1BL_K01 1BL_U10 1BL_W13	5 5 5
07	He conducts a critical analysis of the evaluation of its own monitoring studies. He recalls the provisions of legal regulations regarding the monitoring of water, air and soil.	1BL_K02 1BL_U03 1BL_U08 1BL_W09	5 5 5 5

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
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</i>

		<i>own by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline</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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
e09	Practical methods	Plein air session <i>implementation of a creative task in an open-air area, e.g. outside the studio</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1BL_23_60_fz_1	discussion classes	10	course work	01, 02, 03, 04, 06, 07	a03, a05, b02, b04, c02, f02
1BL_23_60_fz_2	laboratory classes	20	course work	01, 02, 03, 04, 05, 06, 07	a03, a05, c02, d01, e01, e06, e08, e09, f02

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	No
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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
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

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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Biophysics for biologists
Module code		1BL_23_16
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module provides knowledge in the field of biophysics to better understand biological problems and acquire the skills of multi-faceted and rigorous solving of problems. The aim of the module is also to emphasize the need to use the methods of physics, mathematics, and computer science in modern biology, as well as the use of measuring instruments and analysis of measurement results.
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)	
1	The student uses the terminology in the field of biophysics necessary to describe selected biological processes and demonstrates the need to use it.	1BL_K01	3	
		1BL_K04	3	
		1BL_K05	3	
		1BL_U02	4	
		1BL_U03	2	
		1BL_U04	2	
		1BL_U05	3	
		1BL_U06	3	
		1BL_U08	3	
		1BL_U09	4	
		1BL_U10	3	
		1BL_U11	3	
		1BL_U12	5	
		1BL_W01	4	
		1BL_W08	3	

		1BL_W09	3
2	The student uses biophysical methods in the study of the structure and function of organs.	1BL_U06 1BL_U11 1BL_U12 1BL_W01 1BL_W08 1BL_W09	3 3 4 3 3 3
3	Student performs simple biophysical measurements and analyzes the obtained results, taking into account the calculus of measurement errors, he also interprets the results.	1BL_U02 1BL_U03 1BL_U08 1BL_W01 1BL_W09	3 3 3 3 4
4	The student identifies the theoretical basis of biophysical methods used in biology.	1BL_K01 1BL_K04 1BL_K05 1BL_U03 1BL_U05 1BL_U08 1BL_U10 1BL_W01	4 2 3 3 2 3 2 3

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>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c07	Demonstration methods	Screen presentation <i>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,</i>

		<i>charts, images and animations, sometimes sound effects or music; a multimedia illustration of course content presented in the form of a projected image</i>
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>
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>

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
1	lecture	10	course work	1, 4	a01, c07
2	laboratory classes	35	course work	1, 2, 3, 4	a05, b04, d01, e01

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>		Yes
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

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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Breeding of exotic animals
Module code		1BL_23_80
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The Exotic Animal Breeding module enables the student to learn the methods of obtaining animals for breeding and their proper identification to the level of species. In self-conducted experiments, the student acquires the ability to determine the conditions of breeding and the technique of establishing and maintaining various types of breeding (aquarium, terrarium) of exotic animals. Particular emphasis is also placed on the ethical aspect of animal breeding and knowledge of national, EU and international legal acts regarding breeding, keeping and trade in exotic species.
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)	
1BL_43a	1BL 43 1 Rozpoznaje i klasyfikuje taksonomicznie egzotyczne gatunki zwierząt wykorzystywanych w hodowlach.	1BL_K01	4	
	1BL 43 2 Klasyfikuje i opisuje techniki zbioru, utrwalania i konserwacji zwierząt egzotycznych wykorzystywanych w hodowlach.	1BL_U01	5	
	1BL 43 3 Planuje podstawowe wyposażenie niezbędne do prowadzenia egzotycznych hodowli zwierzęcych.	1BL_U02	4	
	1BL 43 4 Potrafi zastosować poznane metody w prawidłowym prowadzeniu egzotycznej hodowli zwierzęcej.	1BL_U06	5	
	1BL 43 5 Zna etyczne i prawne uwarunkowania prowadzenia egzotycznych hodowli zwierzęcych.	1BL_W03	5	
	1BL 43 6 Przestrzega zasad pracy w warunkach hodowli oraz dba o bezpieczeństwo pracy własnej i innych.	1BL_W06	5	
		1BL_W09	5	

9.	Methods of conducting classes		
Code		Category	Name (description)
a05		Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
e04	Practical methods	Project scheduling <i>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</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>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the</i>

		variant versions of a procedure/product/work
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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
1BL_43a	laboratory classes	30	course work	1BL_43a	a05, b04, c06, c07, d01, d03, e04, e06, e07, f01, f02, f03

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>	Yes
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
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>	No
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>a set of activities aimed at performing an assigned task, to be executed out of class, as an obligatory</i>	No

		<i>phase/element of the verification of the learning outcomes assigned to the course</i>	
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		BSc laboratory I
Module code		1BL_23_32
Number of the ECTS credits		2
Language of instruction		
Purpose and description of the content of education		The module aims to familiarize the student with the specifics of research conducted in the selected research team or by the supervisor and to prepare them for the completion of the bachelor's thesis. The student is introduced to the principles of a scientific workshop, learns to use scientific databases, searches for scientific information and evaluates it for relevance, and hones the skills of rapid analysis of specialized texts. Under the instructor's supervision, he collects the results of experiments (his own or published). He processes them statistically and graphically and exercises the ability to formulate objectives and research hypotheses. In cooperation with the group and the instructor, he designs simple experimental models and exercises the ability to create simple conclusions and inferences. The final result of the module is the substantive and practical preparation of the student for the completion of the bachelor's thesis, the formulation of the topic of the bachelor's thesis following the student's interests, the development of its plan and the collection of the necessary professional literature.
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)	
K_1	The student subjects his activity to constructive criticism and considers in his conduct the instructor's comments and other class participants' needs.	1BL_K01 1BL_K05	2 3	
U_1	Under the instructor's supervision, the student collects the results of experiments (own or published) on research in line with the current interest of the Institute or thesis supervisor and exercises the ability to create conclusions and inferences based on the developed data. Systematically performs searches of Polish and English-language literature using traditional and electronic scientific databases, selects and segregates source materials about their suitability for creating an undergraduate thesis.	1BL_U03 1BL_U07 1BL_U08	5 5 4	
U_2	The student explains and applies the principles and rules of data collection under field and laboratory/cultivation conditions and demonstrates the relationship between adherence to these rules and the quality of the results and conclusions drawn	1BL_U01 1BL_U05	3 2	
U_3	With the instructor's assistance, the student statistically and graphically compiles literature data and results of uncomplicated measurements, determinations, and analyses (consistent with the mainstream research of the Institute or	1BL_U02	3	

	thesis supervisor) and creates summaries for the bachelor's thesis.		
W_1	The student knows the scientific methodology in the field consistent with his interests, and he explains the possibilities of its use in creating his own bachelor's thesis. The student recognizes and presents the principles of industrial property protection and copyright law and can use patent information.	1BL_W02 1BL_W08 1BL_W09 1BL_W12	3 5 3 5

9. Methods of conducting classes		
Code	Category	Name (description)
b10	Problem-solving methods	SWOT analysis <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	laboratory classes	30	course work	K_1, U_1, U_2, U_3, W_1	b10, e01, f01, f02, f03

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	Yes
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		BSc laboratory II
Module code		1BL_23_58
Number of the ECTS credits		2
Language of instruction		
Purpose and description of the content of education		The module continues the activities carried out during BSc laboratory I. The student continues to have the opportunity to participate in laboratory activities according to his preferences and interests. He learns the principles of working in a biological laboratory, field, and culture or greenhouse. He improves his skills in preparing his workstation, material and equipment base and hones his skills in operating laboratory equipment and specialized measuring apparatus. He systematically acquires source materials, analyzes them and uses them to create his scientific text. The final result of the module is the submission for review and defence of a manuscript of an undergraduate thesis that is a confirmation of mastery of the techniques of writing and presenting scientific papers in the natural sciences.
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)
K_1	The student subjects his activity to constructive criticism and considers the instructor's comments and other class participants' needs in his conduct.	1BL_K02		2
		1BL_K03		2
U_1	The student plans the schedules of his work in the laboratory/field, taking into account the needs and requirements of others, and prepares the necessary material and equipment base for the performance of the bachelor's thesis.	1BL_U01		4
		1BL_U05		3
		1BL_U11		5
		1BL_U13		4
U_2	The student writes reports, reports and a bachelor's thesis based on professional literature in the native language and English. The student collects and analyzes the results of experiments (own or published) in line with the mainstream research of the team or the promoter and improves the ability to form conclusions and inferences based on the results.	1BL_U04		5
		1BL_U07		5
		1BL_U08		5
		1BL_U09		5
U_3	Using word processors, spreadsheets, simple functions of statistical programs and graphic editors, the student elaborates on the results obtained during laboratory, field or published research and creates summaries. The student	1BL_U03		5
		1BL_U04		3

	systematically performs literature searches. Sources materials are selected, segregated and evaluated for suitability to prepare Bachelor's thesis manuscript.		
W_1	The student has advanced knowledge in the scientific methodology in the field consistent with the mainstream research of the unit/promoter and in using this knowledge in creating their own bachelor's thesis. The student recognizes and presents the principles of industrial property protection and copyright law and can use patent information.	1BL_W02 1BL_W08 1BL_W09 1BL_W11	3 5 3 5

9. Methods of conducting classes		
Code	Category	Name (description)
b10	Problem-solving methods	SWOT analysis <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	laboratory classes	30	course work	K_1, U_1, U_2, U_3, W_1	b10, e01, f01, f02, f03

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</i>	No

		<i>range of activities indicated in it as required for full participation in classes</i>	
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	Yes
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		BSc seminar I
Module code		1BL_23_31
Number of the ECTS credits		1
Language of instruction		
Purpose and description of the content of education		The purpose of the module is to prepare the student to independently develop topics related to the research direction of the selected research team or promoter based on the analysis of the latest literature on the subject. Within the framework of the module, the student completes the knowledge and skills related to participation in scientific discussion, expands the ability to research problems and methods, with particular emphasis on the research profile of the selected unit or promoter, reviews the current world literature in the field of biology and also develops seminar chosen topics.
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)
K_1	The student demonstrates the need to continuously update knowledge in biology and related sciences, including issues and research directions consistent with the Institute's or the thesis supervisor's research profile.	1BL_K01	5	
		1BL_K04	5	
K_2	The student improves personal self-presentation and scientific discussion skills.	1BL_K03	3	
K_3	The student subjects his activity to constructive criticism and considers the instructor's comments and other class participants' needs in his conduct.	1BL_K02	3	
U_1	The student presents the latest developments in the field of biology and systematically searches the literature, including English-language literature, in the area of the research profile of the Institute or the thesis supervisor.	1BL_U01	5	
		1BL_U03	5	
		1BL_U04	5	
		1BL_U11	4	
W_1	The student knows the techniques and tools used in biological research and the thesis standards.	1BL_W02	4	
		1BL_W08	5	

9. Methods of conducting classes		
Code	Category	Name (description)
b05	Problem-solving methods	Activating method – seminar / proseminar <i>a seminar method; usually an oral presentation of a previously studied/diagnosed problem delivered on a forum; it aims at provoking a discussion concerning the results of research work; a type of conference, course or training session modelled on seminar classes</i>
b10	Problem-solving methods	SWOT analysis <i>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</i>
c07	Demonstration methods	Screen presentation <i>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</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	seminar	15	course work	K_1, K_2, K_3, U_1, W_1	b05, b10, c07, f01, f02, f03

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

a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	Yes
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		BSc seminar II
Module code		1BL_23_57
Number of the ECTS credits		1
Language of instruction		
Purpose and description of the content of education		The module continues and expands the activities carried out in BSc seminar I. The purpose of the module is to prepare the student to independently develop an undergraduate thesis based on a critical analysis of the latest literature on the subject. As part of the module, the student develops the ability to participate in scientific discussion of the issues presented, reviews the current world literature in the biology field, develops selected seminar issues, and gives a self-report containing the problems and conclusions of the bachelor's thesis to the group.
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)
K_1	The student understands the importance of experimental work in the life sciences, defines the essence of molecular analysis in modern biology and the usefulness of the qualification of a biologist in the labour market. The student forms and improves personal skills of self-presentation and scientific discussion.	1BL_K01	2	
		1BL_K02	5	
		1BL_K03	4	
		1BL_K05	5	
K_2	The student demonstrates the need for constant updating of knowledge in the field of biology and related sciences, with a particular focus on issues consistent with the research profile of the Institute or the promoter and the topic of his own bachelor's thesis.	1BL_K02	3	
		1BL_K04	4	
		1BL_K05	5	
U_1	The student presents the latest developments in the field of biology with particular emphasis on the research profile of the Institute or the thesis supervisor. Systematically performs literature searches, including English-language literature, in the area of the research profile of the Institute or thesis supervisor and bachelor's thesis.	1BL_U02	2	
		1BL_U03	3	
		1BL_U10	5	
		1BL_U11	3	
		1BL_U13	2	
		1BL_U14	4	

U_2	The student gives constructive criticism of his activity in the seminar and considers in his conduct the instructor's comments and other participants' positions in the class.	1BL_U10 1BL_U11	5 5
W_1	The student knows the importance of scientific research in the context of legislation on the protection of intellectual property and shows respect for his work and the work of others. He knows the cost intensity of research in experimental sciences and the basic mechanisms of its financing.	1BL_W10 1BL_W11 1BL_W13	3 5 4

9. Methods of conducting classes		
Code	Category	Name (description)
b05	Problem-solving methods	Activating method – seminar / proseminar <i>a seminar method; usually an oral presentation of a previously studied/diagnosed problem delivered on a forum; it aims at provoking a discussion concerning the results of research work; a type of conference, course or training session modelled on seminar classes</i>
b10	Problem-solving methods	SWOT analysis <i>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</i>
c07	Demonstration methods	Screen presentation <i>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</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	seminar	15	course work	K_1, K_2, U_1, U_2, W_1	b05, b10, c07, f01, f02, f03
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>			Yes
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>			Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Cell biology
Module code		1BL_23_13
Number of the ECTS credits		5
Language of instruction		Polish
Purpose and description of the content of education		The subject "cell biology" will familiarize the student with the structure and functioning of eukaryotic cells. The student will acquire knowledge about the structure and function of all compartments of a eukaryotic cell, both plant and animal, will learn about the mechanisms of cell functioning and the basics of their differentiation, will consolidate knowledge about the use of appropriate light microscopy techniques for the analysis of eukaryotic cells and the basics of the preparation of biological material, and also modern research methods used in cell biology. The aim of the course is to provide the student with: (1) basic knowledge of the structure and function of the eukaryotic cell and its cellular organelles and their mutual interaction; (2) the ability to conduct observations and simple measurements, (3) competence in the processing of source data, conducting discussions and expressing one's own views.
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	Students use microscopic methods to analyze the structure and function of eukaryotic cells.	1BL_U01		4
		1BL_U12		4
U02	Students are able to prepare preparations for observation in a light microscope and make notes on the observations under the microscope.	1BL_U01		3
		1BL_U05		4
		1BL_U09		3
		1BL_U11		5
W01	Students have knowledge of eukaryotic cell biology and knowledge of the relationship between the structure and functions performed by cell organelles.	1BL_W02		3
		1BL_W03		5
W02	Students know various microscopic techniques and can use them in the study of eukaryotic cells.	1BL_W08		4

9. Methods of conducting classes		
Code	Category	Name (description)
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
c07	Demonstration methods	Screen presentation <i>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</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>

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
K_1	discussion classes	10	exam	W01, W02	b02
L_1	laboratory classes	60	course work	U01, U02	c07, e01

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
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
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
d02	Consulting the results of the verification of	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic</i>	Yes

	learning outcomes	<i>teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Cell death in plants and animals
Module code		1BL_23_51
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The issues of cell death, in the basic scope, will provide the necessary knowledge in the modern world about various types of cell death (genetically programmed and passive). The main aspects developed in this course will concern the knowledge of the morphological-structural and physiological-molecular features of various types of cell death and selected mechanisms of cell defense against the activation of cell death. The aim of the course is to provide the student with: (1) basic knowledge in the field of modern theories explaining cell death and the ability to categorize types of death (2) the ability to analyze source materials, consolidate knowledge of the types of cell death and use this knowledge in the analysis of organisms' response to stress, (3) competencies in the scope of independent development of source materials, formulating own views, discussions and expressing opinions on the types of cell death and its role in the reaction of organisms to abiotic factors and its role in ontogenesis.
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)
	K_01	He formulates opinions and conclusions resulting from the analysis of various types of cell death.	1BL_K01	4
	U_01	Able to work independently and communicate with a group during teamwork.	1BL_U11	4
	U_02	Identifies different types of cell death in plants and animals and can justify their choice. Forms own opinions based on accumulated knowledge.	1BL_U03	4
	W_01	Has knowledge of the basic laws of physics and chemistry necessary to understand the processes and natural phenomena related to cell death in plant and animal organisms.	1BL_W02	4
	W_02	He knows and understands the structure and functioning of organisms at every level of life organization, in particular at the cellular level, and understands the relationship between the organism and the environment in connection with the influence of these factors on the activation of cell death processes.	1BL_W03	4

9. Methods of conducting classes		
Code	Category	Name (description)
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>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</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>

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
K_01	discussion classes	10	course work	K_01, U_01, U_02, W_01, W_02	b04, b09
L_01	laboratory classes	20	course work	K_01, U_01, U_02, W_01, W_02	e01

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Chemical fundamentals of life processes
Module code		1BL_23_10
Number of the ECTS credits		2
Language of instruction		Polish
Purpose and description of the content of education		The module of a propaedeutic character provides basic knowledge of the atomic structure and chemical bonds, their participation in the formation of macromolecules, and the role of individual macromolecules in the design and functioning of cells, with particular emphasis on the structure and functioning of biological membranes, including electrical phenomena and ways of membrane transport. It systematizes the basic knowledge of metabolic processes based on the flow of electrons, emphasizing the chemical basis of the processes of respiration and photosynthesis and the reactions taking place in aqueous solutions as the main component of the cell. Problem and computational tasks related to the chemical basis of life processes are solved during the conversations.
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)	
1BL_23_10_01	The student has knowledge of the structure of the atom, makes skillful use of the periodic table, recognizes and characterizes chemical bonds, and describes their role in the formation and stabilization of macromolecules in the cell.	1BL_W01	1	
1BL_23_10_02	Record and balance chemical reactions that proceed with electron exchange and characterise basic cellular processes based on electron exchange.	1BL_W01	1	
1BL_23_10_03	The student knows the chemical structure of biological membranes and their function. Defines, describes or interprets the different types of transport across membranes.	1BL_W01	1	
1BL_23_10_04	Describes the relationship between the chemical structure of various organic compounds and their function in organisms.	1BL_W01	1	
1BL_23_10_05	Knows the phenomena and processes occurring in water, describes the relationship between the structure of molecules and their behaviour in water.	1BL_W01	1	
1BL_23_10_06	Can perform basic chemical and biochemical calculations.	1BL_U02	1	

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>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</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
1BL_23_10_fz_1	lecture	10	course work	1BL_23_10_01, 1BL_23_10_02, 1BL_23_10_03, 1BL_23_10_04, 1BL_23_10_05	a01, a05, b02
1BL_23_10_fz_2	discussion classes	20	course work	1BL_23_10_01, 1BL_23_10_02, 1BL_23_10_03, 1BL_23_10_04, 1BL_23_10_05, 1BL_23_10_06	a05, b08, b09, c06

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</i>	No

		<i>materials to be used in class</i>	
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>	No
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a</i>	No

	<i>laboratory, in the open air, etc.; also self-education</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Cytogenetics
Module code		1BL_23_36
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>The subject provides basic knowledge in the field of cytogenetics. Students are acquainted with topics related to the organisation and evolution of genomes and karyotypes. Particular attention is paid to the structure and evolution of chromosomes and the methods of chromosome analyses. During the course, the student is acquainted with the practical use of cytogenetic methods in experimental biology and biotechnology. The student also has the opportunity to learn how to interpret the results of the newest publication on genome evolution.</p> <p>The course aims to acquaint students with (1) basic knowledge of methods used in cytogenetics, such as preparation of cytogenetic slides, performing basic chromosome staining and banding methods, as well as preparing karyograms and idiograms; (2) knowledge about the genome size and endopolyploidization during plant development, structure and (3) types of chromosomes and their behaviour during cell division (e.g. reverse meiosis, nondisjunction); (4) mechanisms responsible for karyotype evolution. Students can plan and conduct simple experiments, observations and analyses, as well as draw conclusions and prepare scientific documentation. Students will be able to discuss scientific topics related to genome evolution and the application of cytogenetic techniques in agriculture (e.g., addition lines, translocation, etc., interspecies hybrids).</p>
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)	
01	Students can explain the basic scientific terminology in the field of cytogenetics used in scientific publication	1BL_W02	5	
		1BL_W05	5	
02	Students have knowledge of the structure and evolution of chromosomes	1BL_W05	5	
		1BL_W06	3	
03	Students know the basic cytogenetic techniques and can apply them to analyse the structure and evolution of chromosomes.	1BL_U01	5	
		1BL_U11	5	
		1BL_W08	5	
04	Students can explain the scientific bases of cytogenetic methods	1BL_U01	5	

		1BL_U10 1BL_W08	3 5
05	Students can apply basic techniques of chromosome preparation and staining to solve cytogenetic research problems	1BL_U01 1BL_U06 1BL_U09	5 5 4
06	Students can plan and perform cytogenetic experiments and then correctly interpret obtained results based on scientific literature	1BL_K01 1BL_U03 1BL_U04 1BL_U06 1BL_U07 1BL_U08 1BL_U09 1BL_U14	3 5 5 5 5 4 4 1
07	Students are responsible for their own work and the microscope and laboratory equipment they work with	1BL_W12	5
08	Students are aware that they have to constantly improve their knowledge and critical approach to available sources of information	1BL_K01 1BL_K04 1BL_K05 1BL_U15	3 5 5 3

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>

b05	Problem-solving methods	Activating method – seminar / proseminar <i>a seminar method; usually an oral presentation of a previously studied/diagnosed problem delivered on a forum; it aims at provoking a discussion concerning the results of research work; a type of conference, course or training session modelled on seminar classes</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
03	laboratory classes	35	course work	01, 02, 03, 04, 05, 06, 07, 08	a03, b08, c06, c07, d01, e01,

					f01, f02
W01	lecture	7	course work	01, 02, 03, 04	a01, c02, c07
W02	discussion classes	8	course work	01, 02, 03, 04, 05, 08	b02, b04, b05, c02, c07, f02

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>		Yes
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>		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>		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>		Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>		Yes
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
d03	Consulting the results of the verification of learning outcomes	Review of internship documentation <i>an analysis of the portfolio of documentation obtained during internship, including professional internship, and other practical classes and studio sessions, as well as the documentation developed in order to obtain credit for such classes; verification of the description, necessary attachments, opinions and grades before submitting the portfolio for acceptance</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Degraded habitats ecology
Module code		1BL_23_38
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>The goal of the course is for the student to acquire:(1) advanced knowledge of the degree of degradation of selected ecosystems and pollution on biological life(2) the ability to plan and carry out simple experiments, analyze and evaluate the degree of degradation of selected ecosystems; (3) the competence to creatively express one's thoughts and views related to the development of civilization and the associated transformation of the environment, and the formation of awareness of the impact of pollution on the functioning of selected ecosystems.</p> <p>In a world where human activities often lead to the transformation and destruction of the environment, it is important to learn methods for assessing the degree of degradation and how it affects the functioning of organisms associated with it. The module on the ecology of degraded habitats will allow the student to learn about the potential threats to aquatic and terrestrial environments, the biological effects of degradation of aquatic and terrestrial environments in industrial areas, indicate the impact of anthropogenic loads on aquatic and terrestrial biocoenoses as well as the role of bottom sediments and soils that are the archive of stages of environmental change on plant and animal diversity.</p>
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)	
K01	Proceeds in accordance with the principles of safety and hygiene in the laboratory and during the tests performed. He is able to critically evaluate his knowledge and is ready to consult experts on the methods and tests learned in the exercises.	1BL_K01 1BL_K04	5 3	
U01	Explains the impact of varying degrees of water and soil degradation on the formation of selected aquatic and terrestrial ecosystems, and understands the need to counteract and solve social and environmental problems created as a result. Demonstrates methods to prevent the degradation of soils and surface water in degraded areas.	1BL_U01 1BL_U10 1BL_U11 1BL_U13	5 3 4 4	
U02	He knows and understands the methodology of field and laboratory studies, can apply them in practice to assess the quality of the environment, and can interpret the results obtained.	1BL_U01 1BL_U02 1BL_U03	4 4 5	

		1BL_U04	4
		1BL_U05	5
		1BL_U06	5
W01	Describes and classifies the causes of the ecological crisis on a global, continental, and regional scale. Has advanced knowledge of pollution of anthropogenic origin and knows and understands the mechanisms of its impact on the aquatic and terrestrial environment.	1BL_W01 1BL_W02 1BL_W04 1BL_W07 1BL_W09	5 5 5 4 4

9. Methods of conducting classes		
Code	Category	Name (description)
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	discussion classes	12	course work	U01, W01	b02, b04, c07
02	laboratory classes	33	course work	K01, U01, U02, W01	b01, b04, c06, c07, d03, e01, e06, f02

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>		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
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Dendrology
Module code		1BL_23_37
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The course Dendrology will enable the student to learn about the reasons for the formation of the species composition and ranges of the main species of trees and shrubs in Poland. It will deepen the knowledge of the participants of the classes on the factors determining the occurrence of today's composition of dendroflora in Poland and intra-population diversity depending on habitat conditions. It will give the opportunity to learn about the most important species of trees, shrubs, and climbers, used in urban plantings and in post-industrial areas. The student will acquire practical skills in marking and recognizing trees and shrubs in a leafless and leafy state, as well as preparing records for the protection of monumental trees. Acquire the skills to use specialized equipment for dendrometrical and dendrochronological measurements, which is necessary to calculate stand productivity.
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)	
K01	The student solves basic research problems individually and in a team, and performs projects for the protection of a monument tree.	1BL_K01	5	
K02	Interprets the effects of the impact of various factors: climate change, settlement, and agricultural and industrial activity on dendroflora.	1BL_K01	5	
U01	Explains the basics of shaping and protecting greenery in urban and industrial areas.	1BL_U10	5	
W01	Classifies taxonomically and recognizes species of trees, shrubs, and vines in various phenological stages and determines their origin.	1BL_W03 1BL_W05	4 4	
W02	The student uses specialist terminology in the field of dendrology.	1BL_W03	5	
W03	The student describes the temporal and spatial variability of dendroflora and explains the reasons for the formation of species composition of dendroflora in Poland.	1BL_W05	5	

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
c07	Demonstration methods	Screen presentation <i>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</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>
e05	Practical methods	Internship <i>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</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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
e09	Practical methods	Plein air session <i>implementation of a creative task in an open-air area, e.g. outside the studio</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
01	lecture	10	course work	K02, W01, W02, W03	a01, a03, c07
02	laboratory classes	35	course work	K01, K02, U01, W01, W02, W03	e01, e05, e06, e08, 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 <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>			Yes
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>			Yes
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>			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>			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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Diversity of plant world
Module code		1BL_23_07
Number of the ECTS credits		6
Language of instruction		
Purpose and description of the content of education		<p>Objectives: to familiarize students with the basics and main directions of diversity in the world of plants on the basis of their contemporary variability and systematics, based on the main groups of extinct plants.</p> <p>The subject "Diversity of the plant world" reviews the diversity of prokaryotic and eukaryotic algae, spore and seed plants with an explanation of morphological diversity, developmental cycles, phylogeny and evolutionary trends. The subject includes the following issues: -Prokaryotic photoautotrophs, - Eukaryotic algae, - Land invasion by plants with role of bryophytes and psilophytes, Telome theory, -Fossil and modern ferns, - Primordial seed plants, -Gymnosperms, -Angiosperms - modern classification; -Angiosperms - an overview of orders and families.</p>
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)	
W1	demonstrates an appropriate level of knowledge and understanding of biological terminology appropriate for the studied field and the implemented module	1BL_W02	1	
W2	has knowledge about the differences in the structure of prokaryotic and eukaryotic cells, as well as knowledge about the organization of tissues, organs and functional relationships between them, is able to communicate using specialized terminology appropriate for biological sciences	1BL_U04 1BL_W03	1 1	
W3	has basic knowledge of the classification of organisms, biodiversity, understands the natural phenomena and processes that shape it and the impact of man on the environment	1BL_W07	1	
W4	knows the principles of occupational health and safety and ergonomics	1BL_W12	1	

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</i>

		<i>passive reception of the information provided</i>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</i>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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;</i>

		<i>a complex system of cognition based on sensory experiences</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01w	lecture	10	exam	W1, W2, W3	a01, a03, a05, c01, c07, d02, f01, f02
02L	practical classes	60	course work	W1, W2, W3, W4	a05, b03, c01, c02, c06, c07, d02, d03, e01, e06, f01, f02

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>		Yes
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>		Yes
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>		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>		Yes
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</i>		Yes

		<i>of the task aimed at checking the level of the achieved learning outcomes</i>	
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e03	Activities complementary to the classes	Participation in non-obligatory teaching, research or organizational grants intensifying the achievement of the assumed learning outcomes <i>research, artistic, social and other activities not indicated in the curriculum, undertaken on the student's own initiative as a way of supplementing, enriching or extending the content and activities indicated in the module curriculum, intensifying the achievement of 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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Ecological bioenergetics
Module code		1BL_23_33
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		This module aims to teach students about the connections between the principles of physics and the metabolic processes of organisms, as well as the resulting energy flows and primary and secondary productivity of populations and ecosystems. The factors shaping the magnitudes of these parameters and the role of humans in altering them will be considered. The construction of energy budgets, calculation of bioenergetic efficiency indices, and research methods in bioenergetics will be discussed. Regarding practical skills, the module aims to prepare students for independently conducting experiments and analyzing selected parameters characterizing the bioenergetics of individuals and populations, as well as modelling energy flows through populations, trophic networks, and ecosystems. Experiments on selected invertebrates using measurement equipment and apparatus will enable the calculation of indices for energy budgets, including the analysis of caloric content in micro and macro-biological samples and the determination of the rate of catabolic processes. Based on the results, variables of energy balance parameters at the individual, population, and trophic chain levels will be analyzed.
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)
BE_K01	It formulates its own thoughtful models of energy flows and understands the significance of knowledge related to ecosystem productivity and its determinants in the modern world.	1BL_K01	3	
		1BL_K02	2	
		1BL_K04	1	
		1BL_K05	1	
BE_U01	It utilizes diverse available sources of information on bioenergetics-related issues and systematically analyzes the interrelationships of individual energy budgets and energy flows in populations, trophic chains, and the productivity of different types of ecosystems. It operates laboratory equipment and apparatus for measuring parameters necessary for constructing an energy budget and conducts their analysis accurately. It is familiar with contemporary trends and opportunities for utilizing knowledge in ecological bioenergetics in other scientific areas related to environmental issues and conservation.	1BL_U01	3	
		1BL_U03	2	
		1BL_U04	2	
		1BL_U05	2	
		1BL_U06	3	
		1BL_U08	2	

		1BL_U11	1
		1BL_U12	3
BE_W01	Explains the basic principles governing the energy balance of organisms during their life processes and the mechanisms involved in maintaining it at the population and ecosystem levels. Describes the processes of energy flow between an organism and its environment and can identify the differences in these flows at different trophic levels. Utilizes knowledge of the laws of physics for methods and research techniques in assessing energy transformations in different life stages at the individual and population levels in conducted experiments. Familiar with experimental methods used in bioenergetics.	1BL_W01 1BL_W04 1BL_W08	3 2 3

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</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
01	lecture	15	exam	BE_K01, BE_W01	a01, a03, c07
02	laboratory classes	15	course work	BE_U01	d01, e01, e06, e08
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>			No
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>			No
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>			Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Ecology and nature conservation field courses
Module code		1BL_23_28
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The Field Classes in Ecology and Nature Conservation module is focused on practical learning about biodiversity at the species, population, and ecosystem level and its conditions. It enables the observation of succession stages of vegetation and natural and semi-natural ecosystems subject to legal protection in the national park. He acquaints with the methods of field research of plant and animal populations and phytocenoses as well as methods of protecting natural habitats, which will make it easier for the student to undertake independent research work. The acquired knowledge and skills will contribute to the understanding of the necessity and methods of biodiversity protection.
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)	
1BL_23_28_1	It explains the basic rules and describes the mechanisms of life functioning at the organism, population, phytocoenosis, and ecosystem levels. Recognizes the basic structures, phenomena, and natural processes in the living world. Compares the structure of natural, semi-natural, and anthropogenic ecosystems.	1BL_U10 1BL_U11 1BL_U12 1BL_U13 1BL_W01 1BL_W02 1BL_W04 1BL_W07 1BL_W08 1BL_W09 1BL_W12 1BL_W13	2 2 3 3 3 2 4 3 3 2 3 2	
1BL_23_28_2	Characterizes the diversity of flora, fauna, and phytocenoses and demonstrates knowledge of the factors shaping it.	1BL_W01	3	

	Distinguishes and describes selected types of natural habitats based on phytosociological identifiers.	1BL_W02 1BL_W04 1BL_W07	3 3 4
1BL_23_28_2_7	Recognizes the primary threats to natural habitats and ways to protect them.	1BL_K01 1BL_K02 1BL_K03 1BL_K04 1BL_K05 1BL_U03 1BL_U04 1BL_U07 1BL_U09 1BL_U10 1BL_U11 1BL_U12 1BL_U13 1BL_W01 1BL_W02 1BL_W04 1BL_W07	3 5 3 3 4 3 3 3 3 3 3 3 3 3 3 5 3
1BL_23_28_3	He learns the nomenclature and principles of classifying plant communities and natural habitats.	1BL_W02 1BL_W07	3 4
1BL_23_28_4	He gets acquainted with the nature of the national park and the rules and restrictions applicable in its area.	1BL_W02 1BL_W07 1BL_W10 1BL_W12 1BL_W13	3 3 3 3 2
1BL_23_28_5	He knows the methods of sampling in different environments. Using portable meters, he performs simple measurements of water's physical and chemical properties in the field.	1BL_W01 1BL_W02 1BL_W04 1BL_W08 1BL_W09	2 2 2 1 2
1BL_23_28_6	He acquaints with the methods of field research of plant and animal populations and phytocenoses as well as methods of protecting natural habitats.	1BL_K01 1BL_K02 1BL_K03	4 3 3

		1BL_K04	3
		1BL_K05	3
		1BL_U01	3
		1BL_U02	3
		1BL_U03	3
		1BL_U04	3
		1BL_U05	3
		1BL_U09	4
		1BL_U11	3
		1BL_U12	5
		1BL_U13	3
		1BL_W04	4
		1BL_W08	5
		1BL_W09	3

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</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,</i>

		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
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
b08	Problem-solving methods	Activating method – peer learning learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another
c01	Demonstration methods	Exhibition preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue
c02	Demonstration methods	Video show reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.
c08	Demonstration methods	Value-based methods – affective methods methods of participating in exhibited moral, social, aesthetic and scientific values; activities evoking genuine emotional reactions to works/objects/actions; a method which activates an emotional response to the presented content, intensifies attention, depth of experience and a reflection on values
d02	Programmed learning methods	Working with a programmed textbook working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.
d03	Programmed learning methods	Working with another teaching tool e.g. using websites in any way or according to the rules set by the teacher; or making use of other subject-specific tools
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
e08	Practical methods	Practice-as-research also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks
e09	Practical methods	Plein air session implementation of a creative task in an open-air area, e.g. outside the studio
f01	Methods of self-learning	Self-education a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study
f02	Methods of self-learning	Individual work with a text searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied

		issue
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
1BL_23_18_Z-T	field practice	75	course work	1BL_23_28_1, 1BL_23_28_2, 1BL_23_28_2_7, 1BL_23_28_3, 1BL_23_28_4, 1BL_23_28_5, 1BL_23_28_6	a01, a03, b01, b02, b03, b04, b07, b08, c01, c02, c08, d02, d03, e01, e08, e09, f01, f02, f03

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>	Yes
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>	Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
d03	Consulting the results of the verification of learning outcomes	Review of internship documentation <i>an analysis of the portfolio of documentation obtained during internship, including professional internship, and other practical classes and studio sessions, as well as the documentation developed in order to obtain credit for such classes; verification of the description, necessary attachments, opinions and grades before submitting the portfolio for acceptance</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i>	Yes
e02	Activities complementary to the classes	Publication of a work/presentation of an activity, also beyond the walls of the University <i>a set of activities carried out to disseminate (out of class) the effects of scholarly research, artistic, creative, project, construction, experimental work, etc., in the form of a classic presentation, exhibition, concert, projection, poster presentation, media mediated publication, in the digital form and as part of other activities; dissemination using various forms and tools</i>	Yes
e03	Activities complementary to the classes	Participation in non-obligatory teaching, research or organizational grants intensifying the achievement of the assumed learning outcomes <i>research, artistic, social and other activities not indicated in the curriculum, undertaken on the student's own initiative as a way of supplementing, enriching or extending the content and activities indicated in the module curriculum, intensifying the achievement of 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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Economy botanic
Module code		1BL_23_72
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the module is to broaden the student's botanical knowledge with the use of various plant species in human life. At the same time, it aims to make people aware of the scale of their importance and the possibility of developing various applications. The module provides the student with knowledge on the grouping of vascular plants due to their use in human life (e.g. food (including fodder plants), medicinal, dyeing, and spices). It also describes the features that make plants useful (e.g. the presence of chemical compounds, decorative values). In addition, it teaches the taxonomic identification of crop and wild plant species, as well as products obtained from them. The student consolidates knowledge about the basic groups of organic compounds (classifies their belonging to specific groups of secondary metabolites), which are obtained from individual plants. The subject also familiarizes the student with issues related to threats to the genetic resources of crops and threats to the natural environment through the introduction of new varieties or the introduction of species of foreign origin.
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)
K01	The student is aware of the useful potential of plants and the need for their sustainable use.	1BL_K04	5
		1BL_K05	4
U01	Identifies the selected useful plant species, cultivated and wild in Poland (native and alien).	1BL_U01	5
W01	Taxonomically classifies species of vascular plants of useful importance for humans, determines their origin, and characterizes their features.	1BL_W02	5
		1BL_W07	3
W02	Describes the most important groups of secondary metabolites (alkaloids, terpenoids, phenolic compounds) and their functions in plants.	1BL_W02	4
W03	Identifies threats to the natural environment resulting from the intensive exploitation of plants and the introduction of alien plants, and new varieties of crops, including genetically modified ones.	1BL_W05	3
		1BL_W07	3

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>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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>

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
L_01	laboratory classes	20	course work	K01, U01	b04, c01, c06, c07, e01
W_01	lecture	10	course work	W01, W02, W03	a01

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	No
a03	Preparation for classes	Developing practical skills	No

		<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>	
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
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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Ecosystems under anthropogenic pressure
Module code		1BL_23_39
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module aims to familiarise the student with the new ecological systems in industrial regions and to provide knowledge on atmospheric pollution, soil degradation, and circulation of xenobiotics in the trophic chain. Students will learn mechanisms of anthropopressure and methods of studying this phenomenon and identifying various factors of anthropopressure, types of transformations of phytocenoses forest and non-forest phytocenoses. The module introduces the knowledge of changes in the abundance of insects in biocenoses with particular emphasis on the gradations and principles of the division of selected groups of insects about the type of diseases they cause.
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)
K_01	Uses acquired knowledge of ecology based on various sources, including internet sources, in the process of self-education as well as in the process of raising awareness and ecological safety in environmental education.	1BL_K01		5
		1BL_K02		3
		1BL_K04		4
		1BL_K05		4
U_01	The student communicates using specialised terminology; can participate in the debate - present and evaluate different opinions and positions on anthropopressure in ecosystems and discuss them.	1BL_U03		4
		1BL_U10		5
		1BL_U11		4
		1BL_U14		4
U_02	Can apply the methods learned and use the knowledge to assess the degree of transformation of selected ecosystems. Be able to list basic ways of preventing invasions of selected species with particular emphasis on insect pests of tree stands.	1BL_U01		4
		1BL_U02		3
		1BL_U03		4
		1BL_U11		4

		1BL_U12	5
W_01	Describes and classifies the causes of the ecological crisis at global, continental and regional scales. Is aware of the effect of alien species introduction and synatropisation. Knows the circulation of xenobionts in degraded ecosystems and their blockage in biomass and soils	1BL_W01 1BL_W02 1BL_W04 1BL_W07	3 4 4 5

9. Methods of conducting classes		
Code	Category	Name (description)
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f02	Methods of self-learning	Individual work with a text

		searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue
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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
01	laboratory classes	35	course work	K_01, U_01, U_02, W_01	b01, b04, c06, c07, d03, e01, e06, f02
02	discussion classes	10	course work	U_01, W_01	b02, b04, c07

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
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		English language course 1
Module code		LJA-2023-01
Number of the ECTS credits		3
Language of instruction		English
Purpose and description of the content of education		The module aims to develop communicative language competences and to stimulate the acquisition of skills in oral and written language reception and production as well as in language interaction and mediation, taking into account different varieties and registers of the English language and the necessary language strategies. The module develops the ability to learn, to independently search for and select information and sources of knowledge, and to work in a team. The main emphasis is placed on strengthening the skills of effective communication with others and the fluent use of English in social, educational or professional contacts in accordance with the criteria laid out in the Common European Framework of Reference for Languages (CEFR).
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)	
LJA1_1	Can, following the teacher's instructions, use his/her general knowledge to develop and practice listening, reading, writing and speaking skills in English, can formulate clear and correct, moderately complex oral and written text on various topics, effectively and properly using the relevant vocabulary and rules for the text organization in accordance with the criteria laid out in the Common European Framework of Reference for Languages (CEFR).	KJ.2023_U	2	
LJA1_2	2 Can search, collect and use general information contained in English-language texts of various levels of difficulty, can present their opinions using correct language constructions.	KJ.2023_U	2	
LJA1_3	Can, following general instructions, properly select sources and general information needed to learn English.	KJ.2023_U	2	

9.	Methods of conducting classes		
Code	Category	Name (description)	
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>	

a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b06	Problem-solving methods	Activating method – staged drama/drama <i>experiential learning; solving a problem by acting out a role; a.k.a. a role-playing method; role-players interpret their roles in an individual way; the identification with the role is achieved through the activation of the senses, imagination and speech, the stimulation of gesture and movement, etc.; the aim of drama is to experience situations, problems and events mediated by the role; staged drama is a role-playing method enriched with props and stage scenery illustrating a theme</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c03	Demonstration methods	Audio playback / audio drama <i>preparation and reproduction of sound material (audio recording) in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as a method of sound perception, including the appreciation of a musical piece, an artistic audio drama, an oral presentation of an artistic or scientific text as well as a media text; analysis of the sound material recorded on a carrier with a view to studying a sound-related phenomenon</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</i>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
LJA1_lekt	language classes	30	course work	LJA1_1, LJA1_2, LJA1_3	a03, a05, b06, c02, c03, c06, c07, d02, d03, d04, e07, f01, f02

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	
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>	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	
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	
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		English language course 2
Module code		LJA-2023-02
Number of the ECTS credits		3
Language of instruction		English
Purpose and description of the content of education		The module aims to develop communicative language competences and to stimulate the acquisition of skills in oral and written language reception and production as well as in language interaction and mediation, taking into account different varieties and registers of the English language and the necessary language strategies. The module develops the ability to learn, to independently search for and select information and sources of knowledge, and to work in a team. The main emphasis is placed on strengthening the skills of effective communication with others and the fluent use of English in social, educational or professional contacts in accordance with the criteria laid out in the Common European Framework of Reference for Languages (CEFR).
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)	
LJA2_1	Can effectively use the acquired detailed knowledge in order to develop and practice listening, reading, writing and speaking skills in English, can formulate clearly and correctly more complex oral and written texts on various topics, effectively and correctly using the relevant vocabulary, rules of text organization, in accordance in accordance with the criteria laid out in the Common European Framework of Reference for Languages (CEFR).	KJ.2023_U	2	
LJA2_2	Can search, analyse, evaluate and make use of specific information contained in more complex English texts on topics specified in the module syllabus.	KJ.2023_U	2	
LJA2_3	Can, to some extent independently, select the appropriate sources, specific information and tools for learning English and formulate his/her own opinions in English.	KJ.2023_U	2	

9.	Methods of conducting classes		
	Code	Category	Name (description)
	a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object</i>

		<i>or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b06	Problem-solving methods	Activating method – staged drama/drama <i>experiential learning; solving a problem by acting out a role; a.k.a. a role-playing method; role-players interpret their roles in an individual way; the identification with the role is achieved through the activation of the senses, imagination and speech, the stimulation of gesture and movement, etc.; the aim of drama is to experience situations, problems and events mediated by the role; staged drama is a role-playing method enriched with props and stage scenery illustrating a theme</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c03	Demonstration methods	Audio playback / audio drama <i>preparation and reproduction of sound material (audio recording) in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as a method of sound perception, including the appreciation of a musical piece, an artistic audio drama, an oral presentation of an artistic or scientific text as well as a media text; analysis of the sound material recorded on a carrier with a view to studying a sound-related phenomenon</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</i>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on “replacement” material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
LJA2_lekt	language classes	30	course work	LJA2_1, LJA2_2, LJA2_3	a03, a05, b06, c02, c03, c06, d02, d03, d04, e07, f01, f02

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	
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>	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	
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	
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	
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		English language course 3
Module code		LJA-2023-03
Number of the ECTS credits		3
Language of instruction		English
Purpose and description of the content of education		The module aims to develop communicative language competences and to stimulate the acquisition of skills in oral and written language reception and production as well as in language interaction and mediation, taking into account different varieties and registers of the English language and the necessary language strategies. The module develops the ability to learn, to independently search for and select information and sources of knowledge, and to work in a team. The main emphasis is placed on strengthening the skills of effective communication with others and the fluent use of English in social, educational or professional contacts in accordance with the criteria laid out in the Common European Framework of Reference for Languages (CEFR).
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)	
LJA3_1	Can independently use the acquired knowledge in order to develop and practice listening comprehension, reading, writing and speaking skills in English at an appropriate level.	KJ.2023_U	3	
LJA3_2	Can effectively search, select, synthesize and use information contained in English-language texts of varying levels of difficulty on topics specified in the module syllabus.	KJ.2023_U	3	
LJA3_3	Can communicate in English in speech and writing, producing texts on the topics specified in the module syllabus using a variety of communication channels and techniques, can participate in a debate, present and discuss their own and other people's positions and discuss them in English.	KJ.2023_U	3	

9.	Methods of conducting classes		
Code	Category	Name (description)	
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>	

a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b06	Problem-solving methods	Activating method – staged drama/drama <i>experiential learning; solving a problem by acting out a role; a.k.a. a role-playing method; role-players interpret their roles in an individual way; the identification with the role is achieved through the activation of the senses, imagination and speech, the stimulation of gesture and movement, etc.; the aim of drama is to experience situations, problems and events mediated by the role; staged drama is a role-playing method enriched with props and stage scenery illustrating a theme</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c03	Demonstration methods	Audio playback / audio drama <i>preparation and reproduction of sound material (audio recording) in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as a method of sound perception, including the appreciation of a musical piece, an artistic audio drama, an oral presentation of an artistic or scientific text as well as a media text; analysis of the sound material recorded on a carrier with a view to studying a sound-related phenomenon</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</i>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
LJA3_lekt	language classes	30	course work	LJA3_1, LJA3_2, LJA3_3	a03, a05, b06, c02, c03, c06,

					d02, d03, d04, e07, f01, f02
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
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>			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
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		English language course 4
Module code		LJA-2023-04
Number of the ECTS credits		3
Language of instruction		English
Purpose and description of the content of education		The module aims to develop communicative language competences and to stimulate the acquisition of skills in oral and written language reception and production as well as in language interaction and mediation, taking into account different varieties and registers of the English language and the necessary language strategies. The module develops the ability to learn, to independently search for and select information and sources of knowledge, and to work in a team. The main emphasis is placed on strengthening the skills of effective communication with others and the fluent use of English in social, educational or professional contacts in accordance with the criteria laid out in the Common European Framework of Reference for Languages (CEFR).
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)
LJA4_1		Can effectively formulate complex problems in English, including those related to the studied degree program in order to practice listening, reading, writing and speaking skills in English.	KJ.2023_U	3
LJA4_2		Can independently search, analyse, evaluate, select, synthesize and use general and specific information contained in English-language texts of varying complexity.	KJ.2023_U	3
LJA4_3		Has the ability to understand, reproduce and create various types of written and oral texts that require advanced systemic knowledge of the English language, including specialist knowledge, using grammatical structures and vocabulary specified in the syllabus of the module. Can use the English language at B2 level or higher (or lower, as specified in the syllabus, depending on the level of the group selected by the student who has independent proof of competence in the English language at B2 level) in accordance with the Common European Framework of Reference for Languages (CEFR) using various channels and communication techniques to the extent appropriate for a given area of knowledge.	KJ.2023_U	3

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b06	Problem-solving methods	Activating method – staged drama/drama <i>experiential learning; solving a problem by acting out a role; a.k.a. a role-playing method; role-players interpret their roles in an individual way; the identification with the role is achieved through the activation of the senses, imagination and speech, the stimulation of gesture and movement, etc.; the aim of drama is to experience situations, problems and events mediated by the role; staged drama is a role-playing method enriched with props and stage scenery illustrating a theme</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c03	Demonstration methods	Audio playback / audio drama <i>preparation and reproduction of sound material (audio recording) in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as a method of sound perception, including the appreciation of a musical piece, an artistic audio drama, an oral presentation of an artistic or scientific text as well as a media text; analysis of the sound material recorded on a carrier with a view to studying a sound-related phenomenon</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</i>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text

		searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue
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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
LJA4_lekt	language classes	30	course work	LJA4_1, LJA4_2, LJA4_3	a03, a05, b06, c02, c03, c06, d02, d03, d04, e07, f01, f02

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
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>	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
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Evolutionary diversity of selected vertebrate organs
Module code		1BL_23_40
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module aims to expand knowledge on the structure and evolution of selected organs and internal systems of vertebrates, emphasising their changes in phylogeny. During laboratory classes, the student acquires the ability to analyze and interpret macro- and microscopic preparations and prepares documentation based on the observations
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)	
1BL_K01_P	understands the importance of knowledge in problem-solving, can critically appraise existing knowledge and is ready to seek expert advice when facing difficulties in solving a problem independently	1BL_K01	4	
1BL_U04_P	can communicate using specialized terminology appropriate to biological sciences and related fields	1BL_U04	5	
1BL_U09_P	presents the results of their independent work in the form of reports, papers and essays, and can prepare documentation of the exercises carried out independently.	1BL_U09	5	
1BL_W03_P	has advanced knowledge of the differences in the structure of prokaryotic and eukaryotic cells, the most important functional relationships both between cellular components and between cells, as well as knowledge about the organization of tissues, organs and functional relationships between them.	1BL_W03	4	
1BL_W06_P	has advanced knowledge of phylogenetic issues and evolutionary processes, and directions	1BL_W06	4	

9.	Methods of conducting classes		
Code	Category	Name (description)	
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</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>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</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
k	discussion classes	19	course work	1BL_K01_P, 1BL_U04_P, 1BL_W03_P, 1BL_W06_P	b04, c07, f01
L	laboratory classes	18	course work	1BL_U04_P, 1BL_U09_P, 1BL_W06_P	c06, e01, e06
w	lecture	8	course work	1BL_K01_P, 1BL_U04_P, 1BL_W03_P, 1BL_W06_P	b01, f01

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</i>	Yes

		<i>range of activities indicated in it as required for full participation in classes</i>	
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Field courses in botany and zoology
Module code		1BL_23_18
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		The subject enables the student to practice the skill of using keys to identification of plants and animals. It enables to advance the skills of identification of plants and animals with their natural habitat as well as basic techniques of collection and preservation of organisms for scientific research.
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)	
1	Identifies species of plants and animals in their habitat.	1BL_W07	4	
2	Classifies and describes species of plants and animals observed during fieldwork, indicates their diagnsotic features.	1BL_W08	4	
3	Collects and prepares the mateiral for scientific studies.	1BL_U01	3	
4	Uses the identification key for plants and animals.	1BL_U03	4	
		1BL_U04	4	
		1BL_U05	3	

9.	Methods of conducting classes		
Code	Category	Name (description)	
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>	
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of</i>	

		activities/behaviours
e05	Practical methods	Internship <i>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</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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</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
1-4	field practice	75	course work	1, 2, 3, 4	a05, c06, e05, e06, e08

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>	Yes
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
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>	No
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	No
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</i>	Yes

		<i>for participation in classes outside the walls of the university, classes organized in blocks, organized online, etc.</i>	
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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>	No
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	No
d03	Consulting the results of the verification of learning outcomes	Review of internship documentation <i>an analysis of the portfolio of documentation obtained during internship, including professional internship, and other practical classes and studio sessions, as well as the documentation developed in order to obtain credit for such classes; verification of the description, necessary attachments, opinions and grades before submitting the portfolio for acceptance</i>	No
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i>	No
e02	Activities complementary to the classes	Publication of a work/presentation of an activity, also beyond the walls of the University <i>a set of activities carried out to disseminate (out of class) the effects of scholarly research, artistic, creative, project, construction, experimental work, etc., in the form of a classic presentation, exhibition, concert, projection, poster presentation, media mediated publication, in the digital form and as part of other activities; dissemination using various forms and tools</i>	Yes
e03	Activities complementary to the classes	Participation in non-obligatory teaching, research or organizational grants intensifying the achievement of the assumed learning outcomes <i>research, artistic, social and other activities not indicated in the curriculum, undertaken on the student's own initiative as a way of supplementing, enriching or extending the content and activities indicated in</i>	Yes

		<i>the module curriculum, intensifying the achievement of learning outcomes</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Forest ecosystem
Module code		1BL_23_62
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module is a summary of current knowledge about the formation of forest vegetation after the glaciation period, its contemporary diversity and threats. Individual issues discussed during the classes are related to the current geographical, ecological and altitudinal diversity of forests in Poland, their dynamics, biotic, abiotic and anthropogenic threats. The student becomes familiar with the differences in the functioning of managed and natural forests and with the life cycle of natural forests. Gain knowledge of contemporary threats to forests on a regional and global scale, including the relationship between deforestation and climate change
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)	
K01	Skillfully identifies environmental threats to forest ecosystems and is able to indicate the appropriate ways of acting to guarantee the preservation of their important environmental functions, including biodiversity and regulation of climatic, hydrological and soil conditions	1BL_K01	3	
		1BL_K02	3	
		1BL_K04	3	
		1BL_K05	2	
U01	Understands the complexity of processes and phenomena occurring in the forest ecosystem, the role of forests in natural environmente and the impact of human activity on them, both at the local and global scale	1BL_U03	4	
		1BL_U04	3	
W01	Student knows the contemporary ecological and geographical diversity of Polish forests and the factors that determine it. Identifies and characterizes abiotic and biotic threats of a natural and anthropogenic nature. He is able to distinguish the features of natural forest ecosystems from man-made forests and understands the importance of these forests for the protection of biodiversity and mitigation of the effects of climate warming.	1BL_W02	3	
		1BL_W04	2	
		1BL_W07	5	

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</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>
c07	Demonstration methods	Screen presentation <i>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</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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text

		searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue
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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
1	lecture	15	course work	K01, U01, W01	a01, a03, f01, f02
2	field practice	6	course work	K01, U01, W01	e01, e06, e08
3	practical classes	9	course work	K01, U01, W01	a03, b01, b03, b04, c07

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</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
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

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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		From experiment to model - selected examples from the plant world
Module code		1BL_23_66
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The subject introduces a comprehensive and interdisciplinary view of plant biology, pointing to rules and interrelations between plant growth and development processes at various levels of the organization. The presented theoretical models enable a clear description of phenomena and testing of hypotheses formulated based on the results of experimental research resulting better understanding of the processes taking place in the world of living matter and the rules governing these processes.
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)	
K01	Students can assess their own knowledge in the field of methods and results of experimental and model studies of plant growth and development, and in case of any problems with the assimilation of knowledge, contact a specialist in plant biology.	1BL_K01	2	
U01	Students can use techniques and tools for observation and measurement in plant biology research, estimate measurement uncertainties and apply basic statistical methods for data analysis. He can use the scientific literature in plant biology, draw conclusions and participate in the discussion. Students can plan measurements and simple experiments and develop simple models in plant biology research, make observations and draw conclusions.	1BL_U06	3	
W01	Student knows and understands the working of plant organisms and the relationships between the processes affecting the development and functioning of plants. Student knows and understands experimental and model methods in studying plant growth and development.	1BL_W01 1BL_W09	3 2	

9.	Methods of conducting classes		
Code	Category	Name (description)	
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	

		<i>own by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline</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>

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
01	laboratory classes	30	course work	K01, U01, W01	d01, e01

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

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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Fundamentals of in vitro cultures
Module code		1BL_23_81
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module provides knowledge of the aseptic cultures of plant cells and tissues. The requirements of cells and tissues in in vitro culture are presented, and the factors determining the growth and morphogenesis of cells/tissues are discussed. The module familiarizes with various methods of plant regeneration and the possibilities of their use in practice and basic research. In self-conducted experiments, the student acquires the ability to work in aseptic conditions, masters the technique of establishing, maintaining, and analyzing cell/tissue cultures, collects empirical data, and improves the ability to analyze and interpret the results obtained based on the conducted observations
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)	
1BL_23_81_1	Classifies types of in vitro cultures of plant cells and tissues and defines their usefulness for various biotechnological purposes and in basic research.	1BL_W02 1BL_W03	4 4	
1BL_23_81_2	Distinguishes the basic morphogenetic processes occurring in the in vitro culture of plant cells/tissues and defines the culture conditions leading to a specific type of morphogenesis.	1BL_W03 1BL_W04	4 4	
1BL_23_81_3	Applies basic techniques of in vitro cultures of plants and determines the conditions for cell growth and differentiation in in vitro cultures of various plant species.	1BL_W01 1BL_W04 1BL_W05 1BL_W06	5 5 5 5	
1BL_23_81_4	Describes the experiment's effects, analyze the results, draw conclusions, and present them as a report.	1BL_U09	5	
1BL_23_81_5	Updates knowledge in the field of in vitro culture techniques and their applications.	1BL_K01	5	

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>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1BL_23_81_w_1	lecture	10	course work	1BL_23_81_1, 1BL_23_81_2, 1BL_23_81_3, 1BL_23_81_5	a01, b01, b04, c07, f01, f02
1BL_23_81_w_2	laboratory classes	20	course work	1BL_23_81_1, 1BL_23_81_2, 1BL_23_81_3, 1BL_23_81_4	e01, f02

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>	Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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
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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Fundamentals of molecular biology
Module code		1BL_23_30
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		The module aims to provide in-depth knowledge of molecular biology and genetics. The student will learn about the relationship between the functioning of pro- and eukaryotic organisms and the organization, structure, and type of sequence in their genomes, and will acquire knowledge about the properties and interactions among different types of biomolecules (DNA, RNA and proteins) and the molecular mechanisms regulating these interactions. The mechanisms generating genetic and epigenetic variability and selected methods of analysis of this variability will also be discussed. During practicals, working in small groups, the student will perform experiments using established techniques of molecular biology and acquire the skills of analysis, interpretation and discussion of the obtained results.
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)
1BL_23_30_1	Identifies and describes the relationships between the functioning of living organisms and the properties of their biomolecules (DNA, RNA, proteins) and explains the interactions between these types of biomolecules and the mechanisms regulating these interactions.	1BL_U04		5
		1BL_W04		4
		1BL_W05		5
1BL_23_30_2	Describes, understands and interprets the molecular mechanisms responsible for the generation of genetic and epigenetic variability and knows the methods of analyzing this variability.	1BL_U04		5
		1BL_W05		5
		1BL_W08		4
1BL_23_30_3	Characterizes modern methods of genomics, transcriptomics and proteomics, presents their applications and understands the need to update knowledge in the field of molecular biology methods.	1BL_K05		5
		1BL_U01		5
		1BL_U04		5
		1BL_W08		4
1BL_23_30_4	Uses selected techniques of molecular biology to analyze and characterize nucleic acids and performs molecular biology experiments in small groups under the supervision of the teacher. Describes the effects of the experiment, analyzes the	1BL_U01		5
		1BL_U06		5

	results, formulates conclusions and presents them in the form of a report.	1BL_U08 1BL_U09 1BL_U11 1BL_W08	5 5 5 4
1BL_23_30_5	Knows the rules of work in a molecular biology laboratory and observes them during independent work and demonstrates responsibility for the laboratory equipment he uses.	1BL_K03 1BL_W12	5 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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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,</i>

		<i>charts, images and animations, sometimes sound effects or music; a multimedia illustration of course content presented in the form of a projected image</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1BL_23_30_fs_1	lecture	14	exam	1BL_23_30_1, 1BL_23_30_2	a01, b02, c07, d02, f01, f02
1BL_23_30_fs_2	discussion classes	5	exam	1BL_23_30_3	a03, b02, b09, c07, d02, d03, f01, f02
1BL_23_30_fs_3	laboratory classes	51	course work	1BL_23_30_4, 1BL_23_30_5	b02, b03, b08, b09, c06, c07, d02, d03, e01, f01, f02

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Fundamentals of neurobiology
Module code		1BL_23_46
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module aims to familiarize students with critical paradigms in the field of neurobiology. Mechanisms and phenomena at the molecular and cellular level that are the basis for higher-order processes and, ultimately, behavior will be discussed. The main research methods used in this field will also be indicated as part of this issue. As a result, the student should be aware of the problems and questions posed by neurobiology. They should also have basic knowledge of neurophysiology, neurochemistry, the specific structure of the nervous system, perception, motivation, emotions, mechanisms of reacting to external and internal stimuli, learning and memory, sleep, and wakefulness. With knowledge, the student should also demonstrate critical thinking, analyzing and interpreting information in neurobiology in the basic scope.
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)	
1BL_92_1	The student knows the basic problems of neurobiology at various levels of life organization	1BL_W01	5	
		1BL_W03	5	
1BL_92_2	The student has knowledge of the interaction between neurobiology, other areas of science, everyday life and civilization development	1BL_W04	3	
		1BL_W07	3	
1BL_92_3	The student has knowledge of the mechanisms of interaction between the organism and the environment in the context of the functioning and structure of the nervous system	1BL_W04	4	
1BL_92_4	The student knows the basic research methods used in neurobiological research	1BL_W08	4	
1BL_92_5	The student analyzes information and research on neurobiological systems and processes	1BL_U03	4	
1BL_92_6	student pracuje the student works independently and communicates with other members of the group, creating written works and reports based on experience and literature in the field of neurobiology using adequate terminology	1BL_U04	4	
		1BL_U09	4	
		1BL_U11	4	
1BL_92_7	the student understands the importance of neurobiological knowledge in the context of the development of science and			

	society, critically evaluates and indicates the limitations and possibilities of using neurobiology	1BL_K01	3
		1BL_K04	4
		1BL_K05	3
		1BL_U03	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>	
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>	
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>	
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>	
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>	
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</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>	
b07	Problem-solving methods	Activating methods: a case study <i>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</i>	
b08	Problem-solving methods	Activating method – peer learning	

		<i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
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>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1BL_92_fs_1	lecture	20	course work	1BL_92_1, 1BL_92_2, 1BL_92_3, 1BL_92_4, 1BL_92_5, 1BL_92_6, 1BL_92_7	a01, b02, c06, c07, f01, f02
1BL_92_fs_2	laboratory classes	15	course work	1BL_92_1, 1BL_92_2, 1BL_92_3, 1BL_92_4, 1BL_92_5, 1BL_92_6, 1BL_92_7	a03, a05, b01, b02, b03, b04, b07, c02, c06, c07, d01, d03, e01, e07, f01, f02
1BL_92_fs_3	discussion classes	10	course work	1BL_92_1, 1BL_92_2, 1BL_92_3, 1BL_92_4, 1BL_92_5, 1BL_92_6, 1BL_92_7	a05, b04, b07, b08, b09, d01, f01, f02

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>	Yes
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>	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	No
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	No
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>	No
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</i>	No
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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Fundamentals of plant cytology and anatomy
Module code		1BL_23_06
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		<p>The module provides basic knowledge of the structure and function of the plant cell. The student learns the ways of cell differentiation and tissue formation. They can recognize and characterize various plant tissues. They get knowledge about the morphological and anatomical structure of plant organs. Students will be able to recognize and describe different types of anatomical and morphological adaptations displayed by various plant species (ecological forms). The student acquires the ability to make microscopic preparations, use basic cytological and histological staining and microscopic analysis of preparations.</p> <p>The aim of the course is to obtain: (1) basic knowledge about the structure and function of plant cells, tissues and organs; (2) skills in making anatomical preparations, microscopic observations and documentation of experiments; (3) the ability to conduct discussions on topics related to the structure, function and evolution of plant organs and tissues.</p>
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)	
01	Students have knowledge on the structure and function of prokaryotic and eukaryotic cells and they can identifies observed intracellular structures and cell types.	1BL_W03	5	
02	Students can explain the basic processes of cell and tissue differentiation. They can classify types of plant tissues, are able to explain the relationship between their structure and function, and describe the structure of plant organs.	1BL_W02 1BL_W03	4 5	
03	Students can recognise and characterise the anatomical adaptations of plants to various environmental conditions.	1BL_W04	4	
04	Students can apply the basic techniques of preparation of biological specimens for light microscopy and use a light microscope.	1BL_U01	5	
05	Students are able to present the results of their work in the form of reports and presentations.	1BL_U03 1BL_U04	3 3	
06	Students are responsible for their own work and the microscope and laboratory equipment they work with	1BL_U01	3	

		1BL_W12	4
07	Students are aware that they have to constantly improve their knowledge and critical approach to available sources of information	1BL_K04 1BL_K05	3 3

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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>

f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
W01	discussion classes	12	exam	01, 02, 03, 07	b02, b04, b08, c07, f01, f02
W02	laboratory classes	33	course work	01, 02, 03, 04, 05, 06, 07	a03, b09, c06, c07, e01, f01, f02

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>		Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>		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>		Yes
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
d03	Consulting the results of the verification of learning outcomes	Review of internship documentation <i>an analysis of the portfolio of documentation obtained during internship, including professional internship, and other practical classes and studio sessions, as well as the documentation developed in order to obtain credit for such classes; verification of the description, necessary attachments, opinions and grades before submitting the portfolio for acceptance</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		General and inorganic chemistry
Module code		1BL_23_04
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The subject covers the basic knowledge of general chemistry, which is the basis for further studies not only in the field of chemistry, but also those of an interdisciplinary nature. The purpose of the block "General and inorganic chemistry" (lecture and laboratory) is for the Student to acquire basic chemical knowledge enabling the student to understand the basics of the structure of matter and the physicochemical laws governing the transformation of matter, to determine the properties of elements and the structure and properties of chemical compounds, to interpret and record chemical reactions using reaction equations, performing chemical calculations based on the known chemical laws and rules, obtaining and identifying simple chemical compounds and working safely with chemicals, as well as using the acquired knowledge to describe basic phenomena occurring in living organisms.
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)
W01	Defines and explains the basic laws of chemistry necessary to understand natural processes and phenomena.	1BL_K01		2
		1BL_W01		5
W02	It presents the importance of the chemistry of elements and describes and recognizes the basic rules governing chemical reactions	1BL_W01		5
		1BL_W04		3
W03	Describes the structure and properties of the basic types of chemical molecules.	1BL_U08		3
		1BL_W01		5
W04	Explains the principles of classification and nomenclature of chemical elements and compounds.	1BL_W01		4
W05	Interprets and writes chemical reactions using reaction equations.	1BL_U01		4
		1BL_W01		5
W06	Identifies simple chemical compounds based on their properties and chemical reactions.	1BL_K01		3

		1BL_U03	4
		1BL_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>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	lecture	15	course work	W01, W02, W03, W04, W05	a01, b01, c07, f02
02	laboratory classes	25	course work	W03, W05, W06	e01

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>	Yes
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

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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		General ecology
Module code		1BL_23_21
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		The purpose of the course is to provide the student with knowledge of the theories, models, and hypotheses describing the structure and functioning of the various levels of organization of systems and the relationship of the organism with the environment. The student learns the role of ecology against the background of other natural sciences, its modern achievements and current problems. The students can analyze and interpret the observations' results in the exercises and experiments conducted independently.
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)
K_1	The student updates expertise in ecology and is able to use it to properly interpret data. And analyzes the impact of human activities on the functioning of ecosystems	1BL_K01		5
		1BL_K02		4
		1BL_K04		4
U_1	The student describes ways to measure species diversity and explains the influence of factors shaping it and how organisms adapt to their environment.	1BL_U01		4
		1BL_U02		4
		1BL_U04		5
U_2	The student is able to perform phyto - zoocenological analysis and interprets the results obtained, as well as evaluates the influence of ecological factors on the diversity of organisms	1BL_U02		3
		1BL_U03		4
		1BL_U04		5
		1BL_U06		3
W_1	The student defines ecology as a science, presenting the research scope and tasks and the properties of the natural environment.	1BL_W02		5
W_2	The student defines, classifies and describes interspecies interactions in nature, population characteristics, principles of organization of biocenoses, and directional and non-directional changes in biocenosis. The student presents and	1BL_W04		3

	interprets theories and models related to the ecosystem level.	1BL_W07	5
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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>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
c07	Demonstration methods	Screen presentation <i>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</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
01	lecture	15	exam	W_1, W_2	a01, c07
02	laboratory classes	45	course work	K_1, U_1, U_2	b02, 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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
b01	Consulting the curriculum and the organization	Getting acquainted with the syllabus content	Yes

	of classes	<i>reading through the syllabus and getting acquainted with its content</i>	
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		General endocrinology
Module code		1BL_23_63
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The subject provides knowledge related to general human and animal endocrinology. The course aims to familiarize the student with the exact histological and anatomical structure of the human endocrine glands, their development during embryogenesis, the role they play in the body, and the hormones secreted by them (the effects of hyperfunction and hypofunction). Selected endocrine glands found in invertebrates will also be presented. In addition, the aim is to familiarize the student with the exact mechanism of action of hormones through endocrine, paracrine, and autocrine interactions, with the structure and activation of membrane and nuclear receptors for selected hormones (signal transduction mechanisms), as well as with the ultrastructure of cells secreting steroid and protein hormones.
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)
1BL_76a_K_1	The student discusses the possibilities of using modern techniques in endocrinology.	1BL_K01		4
		1BL_K05		4
1BL_76a_U_1	The student uses literature to prepare multimedia presentations.	1BL_U03		4
		1BL_U04		4
1BL_76a_U_2	The student independently conducts microscopic observations of histological preparations.	1BL_U04		4
		1BL_U05		4
1BL_76a_W_1	The student defines and uses concepts related to general endocrinology.	1BL_W02		4
		1BL_W03		5
1BL_76a_W_2	The student identifies the histological structure characteristic of individual endocrine glands and the relationship between the structure and functions of individual endocrine glands.	1BL_W03		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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a04	Lecture methods / expository methods	Lecture-speech <i>a lecture variant; an oral presentation of lecture content which has been prepared in writing; a lecture-speech can be delivered by the person teaching the course or an invited guest</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</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>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c03	Demonstration methods	Audio playback / audio drama <i>preparation and reproduction of sound material (audio recording) in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as a method of sound perception, including the</i>

		<i>appreciation of a musical piece, an artistic audio drama, an oral presentation of an artistic or scientific text as well as a media text; analysis of the sound material recorded on a carrier with a view to studying a sound-related phenomenon</i>
c05	Demonstration methods	Poster presentation <i>a visual presentation of a problem and its proposed solutions, created by the person teaching the course or by a student on a poster board showing one major element or a collection of several elements in a coherent graphic form</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text

		searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue
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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
01	lecture	15	course work	1BL_76a_W_1, 1BL_76a_W_2	a01, a03, a05, b01, c01, c02, c03, c07, d02, d03, f01, f02
02	laboratory classes	30	course work	1BL_76a_K_1, 1BL_76a_U_1, 1BL_76a_U_2	a03, a04, a05, b04, b08, b09, c01, c02, c05, c06, c07, d01, d02, d03, d04, e01, e06, e08, f01, f02

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>		Yes
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>		Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>		Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the</i>		No

		<i>pursued study programme</i>	
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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		General histology
Module code		1BL_23_05
Number of the ECTS credits		4
Language of instruction		Polish
Purpose and description of the content of education		The subject provides knowledge of the histology of vertebrates, invertebrates, and humans. Students learn about animal tissues' exact structure, origin, and functions in animal and human organisms. During laboratory classes, students develop their skills in operating a light microscope, analyzing microscope slides (recognition of individual tissues and their characteristics), and preparing documentation as a biological drawing.
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)	
K_1	Conducts an objective self-assessment of his work and is responsible for the equipment entrusted to him/her and for the safety of his/her work and that of others.	1BL_K01 1BL_K03	4 4	
U_1	Analyzes tissue images using a light microscope and can correctly interpret them by combining theoretical knowledge with practical skills.	1BL_U01 1BL_U08	5 5	
U_2	Presents the results of independent work in schematic drawings made based on microscopic observations.	1BL_U09	4	
W_1	Defines terms used in histology.	1BL_W02	5	
W_2	Classifies types of animal tissues and describes their organization.	1BL_W02 1BL_W03	5 5	

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>
	b02	Problem-solving methods	Lecture-discussion

		<i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c07	Demonstration methods	Screen presentation <i>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</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	lecture	8	course work	W_1, W_2	a01
02	laboratory classes	27	course work	K_1, U_1, U_2, W_2	c07, e01, e06
03	discussion classes	10	course work	K_1, W_2	b02, b09, d02, f02

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	No
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		General microbiology
Module code		1BL_23_27
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		The module familiarizes the student with the structure and function of the individual structures of prokaryotic cells. Presents the metabolism of microorganisms, and discusses ways of nutrition and respiration of microorganisms. Familiarizes with selected products of bacterial metabolism - toxins, enzymes, biosurfactants, and antibiotics. Delivers knowledge of the interactions of microorganisms with plants and animals and the influence of environmental factors on the growth and activity of microorganisms. It allows to understand the mechanisms that enable microorganisms to adapt to extreme environments. characterizes the microflora of the soil, water, and air, and familiarizes with the issue of the human microbiome. The student learns the methods of sterilization of media and equipment used in the microbiological laboratory. Learns basic microbiological techniques. The student acquires the skills of preparing preparations for microorganisms and using a microscope. Classes' laboratory exercises also teach the analysis and interpretation of the results obtained from the conducted exercises. Conversation classes, on the other hand, allow students to develop the ability to conduct scientific discussions.
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)	
01	The student describes the place of the prokaryote in the world of living organisms and the basics of bacterial classification.	1BL_W06	4	
		1BL_W07	3	
02	The student knows the structures of prokaryotic cells, can describe their functions, and defines the differences between prokaryotic cells and eukaryotic.	1BL_W02	4	
		1BL_W03	5	
03	The student understands the metabolic processes taking place in the cells of microorganisms, distinguishes the processes characteristic of prokaryotes.	1BL_W01	4	
		1BL_W02	3	
		1BL_W03	4	
04	The student explains the interactions between microorganisms and plants as well as microorganisms and animals.	1BL_W02	3	

		1BL_W03	3
		1BL_W04	3
05	The student is able to assess the influence of physico-chemical environmental factors on the growth and activity of microorganisms.	1BL_W01	5
		1BL_W02	3
		1BL_W03	3
06	The student uses the basic techniques used in the microbiological laboratory.	1BL_U01	5
		1BL_U09	5
		1BL_U12	5
07	The student is able to make stained preparations of bacteria and yeast; uses a light microscope.	1BL_U01	5
		1BL_U05	4
		1BL_U11	5
		1BL_U12	5
08	The student demonstrates responsibility for the microscopes and laboratory equipment he uses.	1BL_K01	3
09	The student has the ability to actively participate in a scientific discussion, as well as to present his or her view on the discussed topic.	1BL_K01	4
		1BL_K04	3
		1BL_K05	3
		1BL_U10	5

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision</i>

		<i>tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</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>
b05	Problem-solving methods	Activating method – seminar / proseminar <i>a seminar method; usually an oral presentation of a previously studied/diagnosed problem delivered on a forum; it aims at provoking a discussion concerning the results of research work; a type of conference, course or training session modelled on seminar classes</i>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c05	Demonstration methods	Poster presentation <i>a visual presentation of a problem and its proposed solutions, created by the person teaching the course or by a student on a poster board showing one major element or a collection of several elements in a coherent graphic form</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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>
d04	Programmed learning methods	Reconstruction / reproduction

		<i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</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>
e03	Practical methods	Creation/production – creative workshop <i>an activity involving creating/producing a work/artifact based on the individual, creative effort of the participant; the creative workshop is characterized by the presence and openness which make it possible to access the essence of the work/peculiarity of the artifact at every stage of its creation/production</i>
e04	Practical methods	Project scheduling <i>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</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	laboratory classes	40	course work	01, 02, 03, 04, 05, 06, 07, 08	a01, a03, b09, c06, c07, d03, d04, e01, f01, f02
02	discussion classes	10	course work	01, 02, 03, 04, 05, 09	b02, b03, b04, b05, b07, b08, b09, c01, c05, c07, d03, e03, e04, f01, f02, f03
03	lecture	10	exam	01, 02, 03, 04, 05	a01, b01, b03, b07, c07, f01, f02, f03

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>		Yes

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>	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Genetic engineering for biologists
Module code		1BL_23_65
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module aims to provide advanced knowledge of selected genetic engineering procedures and to present their applications in biochemical, microbiological and genetic research, as well as in industry and medicine. It provides advanced knowledge about enzymes used in genetic engineering, methods of creating constructs, vectors used in cloning, and the procedure of cloning DNA fragments. During the experiment, working in small groups, the student will acquire the ability to perform all stages of the procedure of cloning a DNA fragment and detect the insert in host cells and isolate it, and acquire the skills of analysis, interpretation and discussion of the obtained results.
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)	
1BL_23_65_1	has advanced knowledge of nucleic acid analysis methods and genetic material manipulation procedures, recognizes the need to update knowledge in this field, and understands the use of specific tools and techniques in the field of genetic engineering to solve research problems in the field of molecular biology as well as in industry and medicine	1BL_K05 1BL_U04 1BL_W05 1BL_W08	3 5 4 5	
1BL_23_65_2	understands the principles of planning typical experiments in the field of genetic engineering, knows the use of specialized laboratory equipment and the role of individual reagents and the purposefulness of their use.	1BL_U01 1BL_U04 1BL_W08	5 5 5	
1BL_23_65_3	conducts experiments requiring the use of genetic engineering tools and techniques, working in small groups under the supervision of the teacher, describes their effects, analyzes and discusses the results, formulates conclusions and presents them in the form of a report.	1BL_U01 1BL_U06 1BL_U08 1BL_U09 1BL_U11 1BL_W08	5 5 5 5 5 5	

1BL_23_65_4	knows and observes the rules of occupational health and safety during independent performance of laboratory procedures in the field of genetic engineering, demonstrates responsibility for the laboratory equipment he uses	1BL_K03 1BL_W12	5 4
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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>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>

f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
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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
1BL_23_65_fs_1	lecture	10	course work	1BL_23_65_1	a01, b02, c07, d02, f01, f02
1BL_23_65_fs_2	laboratory classes	35	course work	1BL_23_65_2, 1BL_23_65_3, 1BL_23_65_4	b02, b08, b09, c06, c07, d02, d03, e01, f01, f02

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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

c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Genetics
Module code		1BL_23_26
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		The course provides basic knowledge from the area of general and molecular genetics. Principal genetic terms, genetic inheritance laws, methods of genetic analysis in model plant and animal organisms, as well as molecular mechanisms of inheritance and gene expression processes are presented. Students acquire knowledge how to discriminate and describe types of genetic diversity and learn to understand molecular mechanisms leading to such diversity. Practicals give an opportunity to analyze and interpret basic genetic laws and to solve genetic problems on the basis of examples from model plant and animal organisms.
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)	
1BL_23_26_1	Recalls, describes and interprets the basic genetic terms and principles of inheritance laws.	1BL_U04 1BL_W02 1BL_W05	5 5 5	
1BL_23_26_2	Understands and describes interactions between genes and applies this knowledge to solve problems concerning inheritance of traits and gene identification.	1BL_U04 1BL_W05	4 5	
1BL_23_26_3	Possesses detailed knowledge regarding structure of genetic material and principles of its inheritance	1BL_W05 1BL_W07	5 3	
1BL_23_26_4	Defines and describes molecular processes related to the mechanisms of gene expression and genetic inheritance.	1BL_U04 1BL_W05	5 5	
1BL_23_26_5	Knows and is able to apply statistical tests for verification of hypotheses in the process of genetic analysis.	1BL_U02 1BL_W09	3 3	
1BL_23_26_6	Knows how to draw conclusions from conducted analyzes.	1BL_U01	3	

		1BL_U08	4
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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>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1BL_23_26_z1	lecture	20	exam	1BL_23_26_1, 1BL_23_26_2, 1BL_23_26_3, 1BL_23_26_4	a01, b02, c07, f01, f02
1BL_23_26_z2	laboratory classes	40	course work	1BL_23_26_1, 1BL_23_26_2, 1BL_23_26_3, 1BL_23_26_5, 1BL_23_26_6	c07, d03, e01, f01, f02

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	No

		<i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	
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>	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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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>	Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Geoinformation techniques in biology
Module code		1BL_23_82
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The Geoinformatics Techniques in Biology module aims to provide the student with an elementary knowledge of geoinformatics techniques and their application in biological research. It introduces the student to fundamental concepts of Geospatial Information System (GIS), sources of spatial data on biodiversity and environment, and analytical methods. The student acquires basic skills in using computer tools, including dedicated GIS software (Desktop GIS), performs spatial data analysis, and interprets results.
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)	
K01	Applies basic spatial analysis methods and critically evaluates their usefulness in solving various research problems. Utilizes the latest techniques and knowledge for one's work, realizes the need to deepen one's skills, and keeps abreast of modern GIS technologies in natural science research.	1BL_K01 1BL_K05	3 3	
U01	Operates basic concepts of geoinformation, GIS, and related fields. Lists and describes the most important sources of spatial information on biodiversity and the environment. Distinguishes and selects data types in GIS for acquiring spatial information about objects or phenomena in the natural sciences. Uses GIS software and other IT tools to collect and analyze spatial data about biodiversity and the environment.	1BL_U02 1BL_U03 1BL_U04 1BL_U06	4 4 3 3	
W01	Lists and describes examples of applications of geoinformatics techniques in the study of macro-ecological processes, biogeography, and environmental monitoring, among others. Explains the theoretical basis of the geoinformatics methods discussed in the module.	1BL_W02 1BL_W09	5 5	

9.	Methods of conducting classes		
	Code	Category	Name (description)
	c02	Demonstration methods	Video show

		<i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
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>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</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
01	laboratory classes	30	course work	K01, U01, W01	c02, d01, d03, d04

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
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>	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>	Yes
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>	No
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i>	Yes
e03	Activities complementary to the classes	Participation in non-obligatory teaching, research or organizational grants intensifying the achievement of the assumed learning outcomes <i>research, artistic, social and other activities not indicated in the curriculum, undertaken on the student's own initiative as a way of supplementing, enriching or extending the content and activities indicated in</i>	Yes

		<i>the module curriculum, intensifying the achievement of learning outcomes</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		History of life on Earth
Module code		1BL_23_84
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the lecture is to trace and understand the history of our planet. The student gets to know acquainted successively with the stages of life on Earth, and the development of individual groups of animals and plants in water and terrestrial biocoenoses. The student understands and analyzes the causes of mass extinctions and learns about the early stages of human evolution. Student will be presented with new challenges facing humanity, such as climate change and the development of artificial intelligence.
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)	
1BL_K05_P	demonstrates the need to update the acquired biological knowledge constantly, understands the need to communicate new developments in the field to the public and can convey this information in an understandable way	1BL_K05	5	
1BL_U04_P	can communicate using specific terminology appropriate to biological sciences and related fields	1BL_U04	4	
1BL_W04_P	has advanced knowledge and understanding of the functioning of the organism (plant and animal) as a whole and of the relationship between the organism and the environment	1BL_W04	4	
1BL_W06_P	has advanced knowledge of phylogenetic issues and evolutionary processes and directions	1BL_W06	3	
1BL_W07_P	has advanced knowledge of the classification of organisms, biodiversity, understands the natural phenomena and processes that shape it and the impact of humans on the environment at local, regional and global scale	1BL_W07	5	

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>	

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
01	lecture	30	course work	1BL_K05_P, 1BL_U04_P, 1BL_W04_P, 1BL_W06_P, 1BL_W07_P	a01

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Human anatomy
Module code		1BL_23_20
Number of the ECTS credits		2
Language of instruction		
Purpose and description of the content of education		The aims of the course are 1. explanation of the basic concepts of human anatomy; 2. learning the principles of anatomical nomenclature; 3. getting knowledge about the structure, function, and topography of human organs; 4. getting to know the structure and functions of human systems and their organs: nervous system, endocrine system, reproductive and excretory system, cardiovascular system, digestive system, respiratory system, skeletal and muscular systems. Acquisition of skills and application of the acquired knowledge regarding human functional anatomy for the needs of other branches of biology.
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)	
1BL_35a_K_1	The student understands the need for ethical handling of material of human origin.	1BL_K03	4	
1BL_35a_U_1	The student knows the rules of anatomy nomenclature. He can determine the location of individual organs in the human body and can clearly describe the structure and functioning of the human body.	1BL_U04 1BL_U11	3 4	
1BL_35a_W_1	The student understands the importance of human anatomy as one of the basic fields of natural sciences.	1BL_W03	3	
1BL_35a_W_2	The student knows the structure of individual organs and systems of the human body and understands the principles of their functioning, and perceives the human body as a morphologically and physiologically integrated set of organ systems.	1BL_W01 1BL_W02 1BL_W03 1BL_W04	4 2 4 4	
1BL_35a_W_3	The student knows the rules of anatomical nomenclature and can clearly describe the structure and functioning of the human body.	1BL_W02	2	

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a04	Lecture methods / expository methods	Lecture-speech <i>a lecture variant; an oral presentation of lecture content which has been prepared in writing; a lecture-speech can be delivered by the person teaching the course or an invited guest</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
b05	Problem-solving methods	Activating method – seminar / proseminar <i>a seminar method; usually an oral presentation of a previously studied/diagnosed problem delivered on a forum; it aims at provoking a discussion concerning the results of research work; a type of conference, course or training session modelled on seminar classes</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation

		<i>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</i>
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>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	lecture	10	exam	1BL_35a_W_1, 1BL_35a_W_2	a01, a03, a05, c02, c07, d03, f02
02	laboratory classes	20	course work	1BL_35a_K_1, 1BL_35a_U_1, 1BL_35a_W_3	a03, a04, a05, b04, b05, b08, c01, c02, c06, c07, d01, d02,

				d03, d04, e01, e06, e08, f01, f02
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>	Yes	
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>	Yes	
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	
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes	
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	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	
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</i>	No	
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>	Yes	
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes	

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
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Hydrobiology
Module code		1BL_23_15
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module Hydrobiology will enable the student to understand the phenomena and processes which occur in different types of aquatic ecosystems, increase knowledge about the diversity of aquatic organisms, their environmental and habitat preferences, factors affecting their diversity. It will indicate direct and indirect causes of the degradation of aquatic environments. The recommended program issues allow to learn the basic ecology of aquatic environments. The acquired knowledge and skills will contribute to the understanding of the need to protect water ecosystems.
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)	
K01	Evaluates environmental factors affecting the diversity of aquatic organisms. Analyzes threats to freshwater environments, justifies the need to protect water against degradation, presents the aims and methods of recultivation of water reservoirs and restoration of rivers.	1BL_K02 1BL_K04	5 5	
U01	Student presents the physical and chemical properties of the water, recognizes the main ecological groups of aquatic organisms, explains their importance in the cntext of the functioning of aquatic ecosystems. Understands the relationship between organisms and the aquatic environment. Identifies aquatic organisms from different ecological formations. It presents the trophic organization of freshwater biocoenoses and can perform simple physical and chemical measurements of water in the laboratory as well as interprets the obtained results.	1BL_U04 1BL_U10 1BL_U11 1BL_U12	5 5 5 5	
W01	Knowledge of the functioning of the aquatic environment in the context of the structure and function as well as the taxonomic position of aquatic organisms. Describes and explains the effects of functioning of aquatic ecosystems. Acts in accordance with the rules of occupational health and safety in the laboratory.	1BL_W01 1BL_W04 1BL_W07 1BL_W12	4 4 4 4	

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c07	Demonstration methods	Screen presentation <i>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</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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</i>

		<i>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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	discussion classes	10	course work	K01, W01	b02, b04, b07, b09, c02, c07, d03, f01, f02
02	laboratory classes	35	course work	K01, U01, W01	a03, b07, c02, c07, d02, d03, e01, e06, f01, f02

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</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>	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>	Yes
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Information technology in natural science
Module code		1BL_23_86
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module aims to familiarize the student with the basic knowledge of information technology. The student gets acquainted with the operating system's operation principles and the method of storing and processing data in the computer's memory. The student acquires the skills of preparing presentations using computer software and remote work. The student gets acquainted with the selected graphic software used in biological/environmental sciences.
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)	
1	Defines and describes the basic concepts of information technology and copyright	1BL_K03	2	
		1BL_U02	2	
		1BL_U09	1	
		1BL_U11	2	
		1BL_U13	2	
		1BL_W09	2	
		1BL_W11	3	
2	Uses appropriate software to edit a text document in accordance with the principles of universal design.	1BL_U02	2	
		1BL_U09	2	
		1BL_W09	2	
3	Creates multimedia presentations on a selected topic in the field of biological sciences in accordance with the principles of universal design	1BL_U02	2	
		1BL_U09	4	
		1BL_U11	3	

		1BL_W09	2
4	Uses a spreadsheet to analyze natural issues	1BL_U02 1BL_U09 1BL_U11 1BL_W09	3 3 2 3
5	Designs and creates databases using appropriate software	1BL_U02 1BL_U09 1BL_U11 1BL_W09	4 2 2 2
6	The student uses software to process data obtained from experiments and observations.	1BL_U02 1BL_U11 1BL_W09	4 2 4

9. Methods of conducting classes		
Code	Category	Name (description)
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
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>
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>

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
1	laboratory classes	30	course work	1, 2, 3, 4, 5, 6	b02, d01, e01

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	Yes
a03	Preparation for classes	Developing practical skills	Yes

		<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>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Internships
Module code		1BL_23_29
Number of the ECTS credits		4
Language of instruction		Polish
Purpose and description of the content of education		The aim of the module is to prepare the student to actively search for and take up a career in line with the profile of a biology graduate. This is fostered by an independent search for an institution for an internship, identifying one's own opportunities in the professional practice, and establishing professional contacts. During professional practice, the student becomes acquainted with the specifics of work and the requirements of various positions, which can also be helpful for students continuing their studies at level II in terms of shaping their further education profile by choosing a specific specialization or optional subjects. They have the opportunity to apply their knowledge and skills in practice and performing professional tasks and gain new experience directly related to professional practice. In addition, the student learns about the organization and flow of work, develops teamwork skills, and improves effective time management.
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)
1		Has an understanding of what the professional practice offers, can independently search for institutions employing biology graduates, and is aware of the requirements for candidates wishing to take up specific jobs.	1BL_K03 1BL_U13	5 3
2		It uses for practical purposes the theoretical knowledge of the fundamentals of experimental and field techniques and methods and discusses the role of all biological sciences in the economy and society.	1BL_K01 1BL_K02 1BL_U01 1BL_U06 1BL_U12 1BL_U13	4 4 4 4 3 3
3		Understands the principles of health and safety at work, both general and taking into account the institution's and individual workplaces' specificities, understands their importance, and applies them in practice. Demonstrates responsibility and care for the workplace and equipment entrusted to him/her.	1BL_W11 1BL_W12 1BL_W13	4 5 4

4	Can carry out assigned tasks independently individually and when working in teams and shows respect for his/her own work and the work of others.	1BL_U11	5
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9. Methods of conducting classes		
Code	Category	Name (description)
e05	Practical methods	Internship <i>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</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
1	internship	120	course work	1, 2, 3, 4	e05

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
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
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
d03	Consulting the results of the verification of learning outcomes	Review of internship documentation <i>an analysis of the portfolio of documentation obtained during internship, including professional internship, and other practical classes and studio sessions, as well as the documentation developed in order to obtain credit for such classes; verification of the description, necessary attachments, opinions and grades before submitting the portfolio for acceptance</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Introduction to environmental science
Module code		1BL_23_79
Number of the ECTS credits		2
Language of instruction		
Purpose and description of the content of education		The module aims to prepare the student to discuss contemporary environmental threats, their causes and effects. As part of the module, the student completes knowledge of selected issues in the field of ecology and environmental protection based on the analysis of the subject literature and hones the skills of constructing statements by the principles of a scientific presentation.
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)
K_1	The student can present essential information on the selected topic and use it by participating in the discussion.	1BL_K01	5	
		1BL_K04	5	
		1BL_K05	5	
U_1	The student analyses the available sources of literature on the subject in the context of contemporary environmental threats, their causes and effects	1BL_U03	5	
		1BL_U04	5	
U_2	Students will assess the impact of human activities and actions on biodiversity conservation	1BL_U03	5	
		1BL_U10	5	
W_1	Students will define the most important terms in ecology and environmental protection	1BL_W02	5	
W_2	The student presents the interdependence of biotic and abiotic factors shaping aquatic and terrestrial ecosystems and their impact on biodiversity	1BL_W07	5	

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</i>	

		<i>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>
c07	Demonstration methods	Screen presentation <i>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</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
01	lecture	15	course work	W_1, W_2	a01
02	discussion classes	15	course work	K_1, U_1, U_2, W_2	b04, c07

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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Introduction to microscopy
Module code		1BL_23_11
Number of the ECTS credits		2
Language of instruction		Polish
Purpose and description of the content of education		The Introduction to microscopy module provides knowledge of the light microscopy technique used today in biological research. Familiarizes the student with the structure, principle of operation and applications of the light microscope. Great emphasis is placed on the ability to independently use a light microscope and its use to visualize and observe the structure of cells. The student also acquires the skills of proper preparation of biological preparations, analysis and interpretation of microscopic images of cells obtained using a light microscope.
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)
	U_01	Analyzes and interprets microscopic images of cells obtained using a light microscope	1BL_U01	4
	U_02	is able to document the exercises and present the results of work in the form of reports.	1BL_U09 1BL_U11	5 5
	W_01	has knowledge of the use of light microscopy in the imaging and observation of the cell structure.	1BL_W08	3
	W_02	has knowledge of the use of light microscopy in the analysis and functioning of cells.	1BL_W03	3

9.	Methods of conducting classes		
	Code	Category	Name (description)
	b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
	b07	Problem-solving methods	Activating methods: a case study <i>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</i>

		<i>analysis and evaluation of a selected phenomenon</i>
c07	Demonstration methods	Screen presentation <i>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</i>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</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>

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
L_1	laboratory classes	20	course work	U_01, U_02	c07, e01
W_1	lecture	10	course work	W_01, W_02	b01, b07, c07, d04

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
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>		No
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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</i>		Yes



		<i>of the task aimed at checking the level of the achieved learning outcomes</i>	
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Introduction to mutagenesis
Module code		1BL_23_68
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module provides basic knowledge about the action of chemical and physical mutagens; mechanisms of DNA damage and repair; effects of mutagens action in subsequent generations of treated plants and methods of their assessment, and in particular tests estimating the amount of somatic damage and chromosome aberration in plants, frequency point and chromosome mutations. It also acquaints the student with molecular methods of assessing DNA damage after mutagenic treatment. It shows the use of mutagenesis in basic research and plant breeding on the example of the TILLING strategy (Targeting Induced Local Lesions IN Genomes). The module discusses induced mutations in crop plants and their economic importance.
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)	
1BL_23_68_1	demonstrates an advanced level of knowledge and understanding biological terminology relevant to field of study and related fields	1BL_W02	4	
1BL_23_68_10	critically analyzes information appearing in mass media and in literature popular science	1BL_K04	2	
1BL_23_68_2	knows the types of experimental and field methods and lists modern laboratory techniques, measurement and imaging constituting advanced knowledge in this area	1BL_W08	3	
1BL_23_68_3	knows the rules of occupational health and safety and ergonomics	1BL_W12	5	
1BL_23_68_4	is able to use selected research techniques and tools experimental and environmental biology	1BL_U01	5	

1BL_23_68_5	can communicate using a specialist terminology appropriate to the biological sciences and related fields	1BL_U04	5
1BL_23_68_6	can design and execute under supervision guardian experiments typical of biology z using known methods	1BL_U06	5
1BL_23_68_7	able to work independently and communicate with group during teamwork	1BL_U11	5
1BL_23_68_8	can plan and execute in the field or appropriate physical, biological and laboratory measurements chemicals and make appropriate observations	1BL_U12	5
1BL_23_68_9	understands the importance of knowledge in solving problems, can critically evaluate their knowledge and is ready to consult experts in in case of difficulties with self-solving problem	1BL_K01	5

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</i>
c07	Demonstration methods	Screen presentation <i>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,</i>

		<i>charts, images and animations, sometimes sound effects or music; a multimedia illustration of course content presented in the form of a projected image</i>
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>
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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1BL_23_68_L	laboratory classes	35	course work	1BL_23_68_1, 1BL_23_68_10, 1BL_23_68_2, 1BL_23_68_3, 1BL_23_68_4, 1BL_23_68_5, 1BL_23_68_6, 1BL_23_68_7, 1BL_23_68_8, 1BL_23_68_9	b02, b03, c07, d01, e01, f01, f02
1BL_23_68_W	lecture	10	course work	1BL_23_68_1, 1BL_23_68_10, 1BL_23_68_2, 1BL_23_68_4, 1BL_23_68_5, 1BL_23_68_9	a01, a03, a05, b01, c07, f01, f02

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>	Yes
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>	Yes
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</i>	No

		<i>elements of the curriculum (as preparation for class participation)</i>	
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
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>	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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module		
Module name		Introduction to nanobiology	
Module code		1BL_23_54	
Number of the ECTS credits		3	
Language of instruction			
Purpose and description of the content of education		<p>The combination of knowledge in the field of physics, chemistry and biology has a significant position in the proposed subject. The subject gives such a chance in a basic and introductory dimension. The main assumption is to familiarize the student with a block of topics related to nanobiology. Awareness of the importance of structures of "nano" size in the functioning of the cell and the entire organism, both animal and plant, in the state of health and disease.</p> <p>A significant part of the subject covers the discussion of natural (existing in the living world) structures of "nano" size. The aim of the course is to provide the student with: (1) basic knowledge in the field of nanobiology and the structure and occurrence of natural structures of "nano" size in the living world; (2) the ability to analyze source materials and combine knowledge about the structure and physicochemical properties of natural structures of "nano" size nano" with their function in a cell/organism; (3) competencies in the field of independent development of source materials, formulating own views, discussions and expressing opinions on the development of nanobiomimetics and the practical use of nanobiostructures in everyday human life.</p>	
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)	
K_01	He is ready to act in a creative way, to see social and environmental problems in the field of nanoethics and to react appropriately to them.	1BL_K02	4	
U_01	Can use the latest sources of information in the field of nanobiology in order to prepare an essay, prepare for seminars and scientific discussions.	1BL_U10	4	
U_02	He is able to independently prepare for a discussion in the field of nanobiology, determine the level of his knowledge regarding the structure and physicochemical properties of natural structures of "nano" size and is able to combine these properties with their function in a cell/organism.	1BL_U13	4	
W_01	Knows and understands the relationship between the functioning of the body and the structure and properties of natural structures of "nano" size.	1BL_W01	4	
W_02	He understands the relationship between the achievements of science in the field of nanotechnology and the	1BL_W02	4	

possibilities of their use in socio-economic life, while maintaining sustainable development.

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>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c07	Demonstration methods	Screen presentation <i>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</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
K_01	discussion classes	35	course work	K_01, U_01, U_02	b04, b09
W-01	lecture	10	course work	W_01, W_02	a01, c07

11. The student's work, apart from participation in classes, includes in particular:

Code	Category	Name (description)	Is it part of the BUNA?
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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
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>	No

b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Mathematics in the natural sciences
Module code		1BL_23_02
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module systematizes knowledge of mathematics acquired in high school and extends it with content in the field of biomathematics necessary for biologists. Particular emphasis is placed on the selection of appropriate tools for the description and modeling of phenomena and processes occurring in living organisms. In addition, the module improves the skills of analysis and interpretation of results and drawing conclusions.
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)	
1	Can create or apply an appropriate mathematical model describing the observed biological phenomenon/process	1BL_K01 1BL_U02 1BL_U03 1BL_U07 1BL_U08 1BL_U09 1BL_U10 1BL_U11 1BL_W01 1BL_W04 1BL_W08 1BL_W09	2 4 3 1 3 2 2 3 4 1 2 5	
2	Uses available mathematical software (including e.g. spreadsheet and other programs for both numerical and analytical calculations)	1BL_K01 1BL_U02	3 3	

		1BL_U08 1BL_U09 1BL_U11 1BL_W09 1BL_W11	2 3 3 3 2
3	He is able to interpret the results obtained and understands the need to include assumptions in the model.	1BL_K01 1BL_U02 1BL_U03 1BL_U07 1BL_U08 1BL_U10 1BL_U11 1BL_W09	3 3 3 2 3 2 2 3
4	Can correctly plan and perform mathematical calculations	1BL_U02 1BL_U08 1BL_U11 1BL_W09	3 3 3 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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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</i>

		<i>in the field or pre-selected representatives of a group dealing with a common problem</i>
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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
1	laboratory classes	30	course work	1, 2, 3, 4	a03, a05, b02, b04, d01, f01, f02, f03
2	lecture	15	course work	1, 3	a01, b02

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	Yes
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
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>	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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Methods of field research
Module code		1BL_23_78
Number of the ECTS credits		2
Language of instruction		
Purpose and description of the content of education		The Field Research Methods module is a compensatory class designed to enable first-year students to review and systematize their knowledge of methods used in field research at a level that will enable them to effectively assimilate the content covered by the first-cycle study program in the field of Biology. It is also designed to encourage students to deepen their knowledge of natural sciences. After completing the module, the student should know the most important methods of field research, the different types of equipment used in the field, the rules for their proper use, and the collection and conservation of research material. They should know the safety rules during field research and acquire the basic skills of using field equipment.
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)	
K01	Can acquire, preserve and label research material.	1BL_W07	4	
U01	Solves basic research problems individually and in a team, performs simple measurements in the field under the supervision of a tutor, and makes field observations.	1BL_W08	4	
U02	It synthesizes data from various sources and concludes on this basis.	1BL_W09	3	
W01	He knows the general principles of safe work in the field.	1BL_W12	3	
W02	Explains the principles of selecting field research methods useful in biology and can apply them. Can acquire, preserve and label research material.	1BL_W08	4	
W03	Describes and interprets biodiversity using i.a. computer software packages.	1BL_W09	3	

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</i>

		<i>passive reception of the information provided</i>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
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>
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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</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
01	field practice	10	course work	K01, U01, W01, W02	e06, e08
02	discussion classes	14	course work	K01, U01, U02, W02, W03	d01, e06
03	lecture	6	course work	W01, W02	a01, a03

11. The student's work, apart from participation in classes, includes in particular:				
Code	Category	Name (description)		Is it part of the BUNA?
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

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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Methods of imaging plant cells and tissues
Module code		1BL_23_42
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		In vivo and in vitro cell imaging methods are an intensively developing research field applicable in biology, biotechnology and medicine. The skills of imaging cells and tissues are the basis in modern diagnostics related to both the analysis of basic processes occurring in cells and their response to biotic and abiotic stress. Therefore, the idea of this course is to discuss microscopic methods (light and electron microscopy) in the imaging of plant cells and tissues, but most importantly, to acquire practical skills in cell imaging (with particular emphasis on fluorescence microscopy).
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	Students are able to use the basic research techniques and tools of experimental biology as well as advanced microscopic techniques and methods for imaging plant cells.	1BL_U01 1BL_U05	4 4	
U02	Students are able to describe, analyze and interpret the obtained microscopic images.	1BL_U09 1BL_U11 1BL_U12	5 5 3	
W01	Students know and understand the structure and functioning of organisms at every cellular and tissue level, and understand the relationships and influence of the environment on the functioning of plants.	1BL_W03 1BL_W04	4 4	
W02	Students know and understand the methodology of experimental biological research allowing for the visualization of plant cells, in particular advanced methods of confocal microscopy.	1BL_W08	3	

9.	Methods of conducting classes		
	Code	Category	Name (description)
	c07	Demonstration methods	Screen presentation

		<i>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</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>

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
L_1	laboratory classes	30	course work	U01, U02, W01, W02	c07, e01

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
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
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Microorganisms in biotechnology
Module code		1BL_23_43
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module will present the participation and role of microorganisms in biotechnology. The diversity of processes related to both biosynthesis and the use of metabolites of microorganisms in the food and pharmaceutical industries will be emphasized. The usefulness of microorganisms in the transformation of waste and harmful substances resulting from human activity into safe and useful forms in agriculture and environmental protection will be discussed. Particular attention will be paid to biotechnological processes observed and used in everyday life. During independent work in the laboratory, the student improves the skills of planning and conducting simple experiments, observations and analyses of selected parameters characterizing the biotechnological process under study.
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)
K_05	Cooperates and discusses with others.	1BL_K01	3	
		1BL_K02	3	
		1BL_U08	4	
		1BL_U09	4	
K_06	Complies with the rules of work in a specialist laboratory.	1BL_K03	4	
U_03	Student cultivates microorganisms and sees their use in the synthesis of industrially useful compounds and in environmental purification.	1BL_U01	3	
		1BL_U05	4	
U_04	Describes the effects of the experiment, analyzes the results, draws conclusions.	1BL_U08	4	
W_01	Has knowledge of the possibility of using selected methods of microorganism biotechnology in various synthesis processes, remediation of degraded environments and replacing traditional technologies with environmentally friendly ones.	1BL_W01	3	
W_02	Student understands the methodology of biotechnological research with the use of microorganisms. Recognizes the role	1BL_W08	3	

	of microorganisms in the aspect of sustainable development.	1BL_W09	2
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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>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
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>
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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	lecture	5	course work	U_04, W_01, W_02	a01, d01, d03, f01, f02
02	discussion classes	5	course work	K_05, U_04, W_01, W_02	b02, b04, d01, d03, f01, f02
03	laboratory classes	20	course work	K_06, U_03, U_04, W_01, W_02	e01, e06, e08, f01

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>	Yes
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>	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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>	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>	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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Microscopic techniques in animal research
Module code		1BL_23_75
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The course conveys specialized knowledge of microscopic techniques (light microscopy, fluorescence microscopy, transmission and scanning electron microscopy) and classification of methods of animal tissue analysis. The purpose of the course is to familiarize the student with the construction and principles of operation of the equipment used in the microscopic technique laboratories and to familiarize the student with the differences in the preparation of animal tissues for analysis in different types of microscopes.
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)
K01	Is responsible for the laboratory equipment entrusted to him and for the safety of his work and that of others, carries out objective self-evaluation of his work.	1BL_K01		4
		1BL_K03		4
U01	Applies particular microscopy and animal tissue analysis techniques under the guidance of an instructor.	1BL_U01		4
		1BL_U05		4
U02	Carries out microscopic observations of prepared slides independently, and prepares documentation based on the obtained results.	1BL_U08		4
		1BL_U09		4
W01	Defines terms related to microscopic techniques.	1BL_W02		5
		1BL_W08		5
W02	Knows microscopic techniques and lists animal tissue analysis techniques.	1BL_W08		5

9.	Methods of conducting classes		
Code	Category	Name (description)	
c06	Demonstration methods	Demonstration-imitation	

		<i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>

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
01	laboratory classes	45	course work	K01, U01, U02, W01, W02	c06, c07, d02, e01

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>		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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University		No

		<i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Module in the "Creative Expression and Critical Thinking" area
Module code		MO-2023-SS-ETKM
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		Underlying the area of "Critical Thinking and Creative Expression" is the conviction that it is necessary to interest students in various intellectual traditions and forms of creative practice making it possible to approach a given problem from many perspectives. It is crucial to develop critical thinking skills, in particular with regard to information present in various forms of communication (popular, popular science, specialist publications, traditional and so-called new media, or artistic activities based on scientific research). Equally important is work in the area of cultural awareness and expression aimed at creative expression of ideas, experiences and emotions through various means of expression: music, theater, literature and visual arts. Driving the process of self-creation is the need to be creative and the need for creative expression, stemming from a deeply rooted human tendency to be inventive while drawing from the values found in art, literature, music, fine arts, values defining the culture of the nation, existing in national traditions, in historical memory and in folk culture.
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)	
KS_01	Is ready to meet social obligations, co-organize activities for the benefit of the community and is open to scientific solutions to cognitive and practical problems.	MOB.2023_K01	3	
U_01	Asks questions, analyzes research problems, and finds solutions to them, making use of knowledge, skills and experience pertaining to critical thinking and creative expression in connection with the leading discipline of the degree programme.	MOB.2023_U01	3	
U_02	Communicates the results of his/her work in the field of critical thinking and creative expression in a way which is clear and understandable not only to specialists.	MOB.2023_U01	3	
W_01	Has advanced knowledge of selected scientific theories and methods, and is familiar with issues pertaining to critical thinking and creative expression.	MOB.2023_W01	3	
W_02	Understands the connection between issues related to critical thinking and creative expression and the leading discipline of the degree programme.	MOB.2023_W01	3	

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	depending on the choice	30	course work	KS_01, U_01, U_02, W_01, W_02	a03, a05, b04, c07, d03, f01, f02

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module		
Module name		Module in the "Digital World" area	
Module code		MO-2023-SS-CS	
Number of the ECTS credits		3	
Language of instruction			
Purpose and description of the content of education		<p>Apart from the real world, the digital world is of course another area constantly present in modern people's lives. The two human environments – the natural and the cultural one – have been joined by a third one, i.e. the digital environment. Modern digital technologies create new opportunities, but their constant development may, in addition to new opportunities, also create new threats. The modules proposed within the "Digital World" area provide an opportunity to learn about the crucial, current technological and social aspects of the digital world and to build competences for conscious, creative and safe functioning in this/her world.</p> <p>The modules of the Digital World area are divided into two sub-areas. Crucial for the first one, dubbed "Digital technologies", are the issues pertaining to technologies; this/her sub-area will allow students to expand their digital competences in the field of programming as well as data processing and analysis. Essential for the second sub-area, dubbed "Digital society", is a reflection on the impact of the development of digital technologies, including artificial intelligence, on the way we function as individuals and as entire societies. The purpose of the module content in this/her sub-area is to develop students' skills of navigating the digital world in creatively and safely, while maintaining personal autonomy and self-awareness.</p>	
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)	
KS_01	Shows openness to science-based solutions to cognitive and practical problems and is ready to fulfill social obligations.	MOB.2023_K01	3	
U_01	Asks questions, analyzes research problems, and finds solutions to them, making use of knowledge, skills and experience gained in the field of digital technologies and issues pertaining to the digital society in conjunction with the leading discipline of the degree programme.	MOB.2023_U01	3	
U_02	Communicates the results of his/her work pertaining to the key technological and social aspects of the digital world in a way which is clear and understandable not only to specialists.	MOB.2023_U01	3	
W_01	Has advanced knowledge of selected scientific theories and methods and is familiar with issues pertaining to key technological and social aspects of the digital world.	MOB.2023_W01	3	
W_02	Understands the connection between key technological and social aspects of the digital world and the leading discipline	MOB.2023_W01	3	

of the degree programme.

9. Methods of conducting classes

Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	depending on the choice	30	course work	KS_01, U_01, U_02, W_01, W_02	a03, a05, b04, c07, d03, f01, f02

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	No

		<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>	
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Module in the "Health and Personal Development" area
Module code		MO-2023-SS-ZRO
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The area of "Health and Personal Development" opens university education to the perspective of the well-being of an individual (i.e., a student, who is a person entering adulthood). The area focuses on such categories as maintaining physical, mental and social health, the level of satisfaction with various spheres of one's life and the development of "soft" skills (dealing with stress, communicating with others or the conscious shaping and managing one's life). The modules offered within the "Health" sub-area are meant to equip students with the ability to recognize and assess their own health (including their mental health) and to find appropriate means of promoting it. The point of departure of the module is the presentation of modern knowledge that distinguishes evidence-based medicine from common beliefs. The modules in the "Personal Development" sub-area direct students towards methods of the practical maintenance of one's well-being (including mental well-being). They supply competences for building one's personal potential in the modern world in a way which is active and effective as well as conscious and prudent. The main concern is realizing and recognizing one's own preferences, possibilities and limits, as well as the awareness of agency and responsibility for the balance between health, happiness and development. Having attended the module, the individual will be in a position to combine his/her own development with taking care of his/her mental and physical condition and general well-being in a balanced way.
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)	
KS_01	Is ready to meet social obligations, co-organize activities for the benefit of the community and is open to scientific solutions to cognitive and practical problems.	MOB.2023_K01	3	
U_01	Asks questions, analyzes research problems, and finds solutions to them, making use of knowledge, skills and experience pertaining to the concept of an individual's well-being, including their health and personal development, in conjunction with the leading discipline of the degree programme.	MOB.2023_U01	3	
U_02	Communicates the results of his/her work regarding the concept of an individual's well-being, including their health and personal development, in a way which is clear and understandable not only to specialists.	MOB.2023_U01	3	
W_01	Has advanced knowledge of selected scientific theories and methods, and is familiar with issues connected with the concept of an individual's well-being, including their health and personal development.	MOB.2023_W01	3	

W_02	Understands the connection between the issues pertaining to the concept of an individual's well-being, including their health and personal development, and the leading discipline of the degree programme.	MOB.2023_W01	3
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9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	depending on the choice	30	course work	KS_01, U_01, U_02, W_01, W_02	a03, a05, b04, c07, d03, f01, f02

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	
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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	
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Module in the "Natural Environment and Technologies" area
Module code		MO-2023-SS-SNT
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The "Natural Environment and Technologies" area pertains to human interaction with the material environment, both the natural one and the one heavily modified by technology. This is the environment where people live, which they are subject to, and which they change in many ways. Understanding the Anthropocene requires an understanding of how biological systems function (from cells to ecosystems, to modern environmental threats, climate issues, natural resources, and many other natural issues) as well as an understanding of the rudiments of technical and technological knowledge. It is crucial to know and understand how technological development, especially in the areas of energy, green technologies, modern materials or everyday life (e.g. food production) can change the nature of human impact and support the way we care for the environment. The ways in which the human impact on the environment is regulated include using legal tools, such as nature protection law or energy law, as well as EU regulations, Sustainable Development Goals or the European Green Deal.
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)	
KS_01	Shows openness to science-based solutions to cognitive and practical problems and is ready to meet social obligations.	MOB.2023_K01	3	
U_01	Asks questions, analyzes research problems, and finds solutions to them, making use of knowledge, skills and experience pertaining to the human interaction with the material environment – both natural and technologically modified, in conjunction with the leading discipline of the degree programme.	MOB.2023_U01	3	
U_02	Communicates the results of his/her work pertaining to the human interaction with the material environment – both natural and technologically modified, in a way which is clear and understandable not only to specialists.	MOB.2023_U01	3	
W_01	Has advanced knowledge of selected scientific theories and methods, and is familiar with issues connected with human interaction with the material environment – both natural and technologically modified.	MOB.2023_W01	3	
W_02	Understands the connection between issues pertaining to human interaction with the material environment – both natural and technologically modified, and the leading discipline of the degree programme.	MOB.2023_W01	3	

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	depending on the choice	30	course work	KS_01, U_01, U_02, W_01, W_02	a03, a05, b04, c07, d03, f01, f02

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Morphology and anatomy of insects
Module code		1BL_23_44
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module aims to develop knowledge about insects' diverse morphological and anatomical structure, their position in the world of invertebrates and phylogenetic relationships between taxa. During the laboratories, the student acquires the ability to prepare entomological materials and learns about the practical application of scanning microscopy in analysing functional morphology and its importance in studying insect biodiversity.
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)	
1BL_K01_P	understands the importance of knowledge in problem-solving, can critically appraise existing knowledge and is ready to seek expert advice when facing difficulties in solving a problem independently	1BL_K01	5	
1BL_U04_P	can communicate using specialized terminology appropriate to biological sciences and related fields	1BL_U04	4	
1BL_U09_P	presents the results of their independent work in the form of reports, papers and essays, and can prepare documentation of the exercises carried out independently.	1BL_U09	4	
1BL_W06_P	has advanced knowledge of phylogenetic issues and evolutionary processes and directions	1BL_W06	4	
1BL_W07_P	has advanced knowledge of the classification of organisms, biodiversity, understands the natural phenomena and processes that shape it and the impact of humans on the environment at local, regional and global scale	1BL_W07	4	

9.	Methods of conducting classes		
	Code	Category	Name (description)
	b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</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>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</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
k	discussion classes	6	course work	1BL_K01_P, 1BL_U04_P, 1BL_W06_P, 1BL_W07_P	b04, c07, f01
L	laboratory classes	18	course work	1BL_K01_P, 1BL_U04_P, 1BL_U09_P, 1BL_W06_P, 1BL_W07_P	c01, c06, c07, e01, e06
w	lecture	6	course work	1BL_K01_P, 1BL_U04_P, 1BL_W06_P, 1BL_W07_P	b01, f01

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>		Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>		Yes
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Nanobiotechnology - application of nanoparticles in biology and medicine
Module code		1BL_23_45
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>The aim of the course is for the student to obtain: (1) basic knowledge in the field of nanobiotechnology and the possibility of using the latest discoveries of nanotechnology in human life; (2) the ability to conduct observations and simple measurements (3) competencies in the processing of source data, conducting discussions and expressing one's own views related to the development of science and making the public aware of the potential benefits and threats resulting from the development of nanobiotechnology.</p> <p>General description: Nanobiotechnology directly reflects human life, in particular it is conducive to the development of science and medicine. The aim of the course is to show the versatility of the latest discoveries in the field of nanobiotechnology and their application in medicine and other areas of human life. The course will include imaging and diagnostics using nanoparticles, drug design and drug carriers, discoveries in the field of cancer therapy, implant design and personalized treatment. An important element of the course is to show the variety of applications of nanoparticles and nanomaterials and to raise awareness of the most important problems and limitations of nanobiotechnology (including the problem of biocompatibility of nanomaterials).</p>
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)	
K01	Understands the importance of knowledge in solving problems in the field of nanobiotechnology.	1BL_K01	5	
		1BL_K04	4	
		1BL_K05	2	
U01	Can use basic research techniques and tools of experimental biology/biotechnology	1BL_U01	5	
		1BL_U02	4	
		1BL_U03	4	
		1BL_U04	3	
		1BL_U05	4	
		1BL_U06	4	

		1BL_U07 1BL_U08 1BL_U09 1BL_U12 1BL_U15	3 2 2 3 4
U02	Demonstrates the need to constantly update knowledge on biotechnological processes and conducts an objective self-assessment of his own work and skills.	1BL_U03 1BL_U08 1BL_U09 1BL_U13 1BL_U14 1BL_U15	2 2 2 2 3 4
U03	Reviews and develops scientific papers in the field of nanobiotechnology in English	1BL_U03 1BL_U04 1BL_U10 1BL_U14	5 3 2 2
W01	Has knowledge of the basics of physics and chemistry necessary to understand the effects of nanoparticles on organisms	1BL_W01 1BL_W02 1BL_W03 1BL_W04 1BL_W08 1BL_W09 1BL_W12 1BL_W13 1BL_W14 1BL_W15	4 1 2 2 3 2 2 1 2 1
W02	Knows the basic ways of using nanoparticles in biotechnology, with particular emphasis on medicine.	1BL_W01 1BL_W02 1BL_W03 1BL_W04 1BL_W05 1BL_W08 1BL_W09 1BL_W12 1BL_W13 1BL_W14	4 2 3 2 1 4 1 2 1 2

		1BL_W15	1
W03	Knows and understands the problems related to the use of nanoparticles and nanomaterials in human life.	1BL_W01 1BL_W02 1BL_W03 1BL_W04 1BL_W05 1BL_W08 1BL_W13 1BL_W14 1BL_W15	4 2 2 3 2 3 3 2 2

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
b05	Problem-solving methods	Activating method – seminar / proseminar <i>a seminar method; usually an oral presentation of a previously studied/diagnosed problem delivered on a forum; it aims at provoking a discussion concerning the results of research work; a type of conference, course or training session modelled on seminar classes</i>
b07	Problem-solving methods	Activating methods: a case study

		<i>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</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c05	Demonstration methods	Poster presentation <i>a visual presentation of a problem and its proposed solutions, created by the person teaching the course or by a student on a poster board showing one major element or a collection of several elements in a coherent graphic form</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
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>
e03	Practical methods	Creation/production – creative workshop <i>an activity involving creating/producing a work/artifact based on the individual, creative effort of the participant; the creative workshop is characterized by the presence and openness which make it possible to access the essence of the work/peculiarity of the artifact at every stage of its creation/production</i>
e04	Practical methods	Project scheduling <i>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</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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting</i>

		<i>qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
K01	discussion classes	25	course work	K01, U02, U03, W01, W02, W03	b02, b04, b05, b07, c02, c05, c07, d01, f02, f03
L01	laboratory classes	10	course work	K01, U01, U02, U03, W01, W02, W03	a03, a05, b04, d01, e01, e03, e04, e06, e08, f01, f02, f03
W01	lecture	10	course work	U02, U03, W01, W02, W03	a01, a03, a05, b01, c02, c07, f02

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
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	No
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</i>	Yes

		<i>for participation in classes outside the walls of the university, classes organized in blocks, organized online, etc.</i>	
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Nature conservation
Module code		1BL_23_24
Number of the ECTS credits		2
Language of instruction		
Purpose and description of the content of education		The module is designed to raise awareness of the relationship between nature conservation and the quality of human life. Allows for correct understanding and applying in practice the definitions of basic concepts in the field of nature conservation, their redefinition in the context of various requirements legal. It teaches a systemic approach to nature conservation at various levels of the organization, with particular emphasis on the level regional. He teaches how to use the available legal tools. It shapes the correct attitude towards threats to the natural environment at the local and regional level.
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)
1BL_23_24_1	It presents the historical background of nature conservation and environmental protection development, with particular emphasis on developing research methods and legal tools.	1BL_W01		3
		1BL_W02		3
		1BL_W04		3
		1BL_W07		3
		1BL_W08		3
		1BL_W13		3
1BL_23_24_2	Understands, defines, and redefines basic concepts and relationships between animate and inanimate nature. He knows the forms of nature protection.	1BL_W01		4
		1BL_W02		2
		1BL_W04		4
		1BL_W07		3
1BL_23_24_3	He locates the problems of nature conservation in the issues of environmental threats on various scales (global, regional, local).	1BL_W01		3
		1BL_W02		2

		1BL_W04	4
		1BL_W07	4
1BL_23_24_4	Explains and selects appropriate strategies for nature conservation through knowledge of the functioning of ecosystems.	1BL_W01	3
		1BL_W02	2
		1BL_W04	3
		1BL_W07	3
		1BL_W13	2
		1BL_W15	2

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a04	Lecture methods / expository methods	Lecture-speech <i>a lecture variant; an oral presentation of lecture content which has been prepared in writing; a lecture-speech can be delivered by the person teaching the course or an invited guest</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning</i>

		<i>situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
c08	Demonstration methods	Value-based methods – affective methods <i>methods of participating in exhibited moral, social, aesthetic and scientific values; activities evoking genuine emotional reactions to works/objects/actions; a method which activates an emotional response to the presented content, intensifies attention, depth of experience and a reflection on values</i>
c09	Demonstration methods	Value-based methods – expressive methods <i>methods of accessing value-related knowledge, experiencing values in emotion-laden activities; creating situations enabling the creation or reproduction of values as a way of self-expression combined with experiencing values (individually or in a group); actions, most often creative, involving an expressive and suggestive way of expressing emotions</i>
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>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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</i>

		<i>it becomes operational; the laboratory method assumes greater independence of learners than carrying out an experiment</i>
e03	Practical methods	Creation/production – creative workshop <i>an activity involving creating/producing a work/artifact based on the individual, creative effort of the participant; the creative workshop is characterized by the presence and openness which make it possible to access the essence of the work/peculiarity of the artifact at every stage of its creation/production</i>
e05	Practical methods	Internship <i>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</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
1BL_23_24_L	laboratory classes	20	course work	1BL_23_24_1, 1BL_23_24_2, 1BL_23_24_3, 1BL_23_24_4	a01, a03, a04, a05, b02, b04, b07, b08, b09, c01, c02, c06, c08, c09, d01, d02, d03, e01, e03, e05, f01, f02, f03
1BL_23_24_W	lecture	10	course work	1BL_23_24_1, 1BL_23_24_2, 1BL_23_24_3, 1BL_23_24_4	a01, a03, a04, a05, b02, c01, c02, c07, c08, c09, d02, f01, f02

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>	Yes
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>	Yes
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

a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i>	Yes
e02	Activities complementary to the classes	Publication of a work/presentation of an activity, also beyond the walls of the University	Yes

		<i>a set of activities carried out to disseminate (out of class) the effects of scholarly research, artistic, creative, project, construction, experimental work, etc., in the form of a classic presentation, exhibition, concert, projection, poster presentation, media mediated publication, in the digital form and as part of other activities; dissemination using various forms and tools</i>	
e03	Activities complementary to the classes	Participation in non-obligatory teaching, research or organizational grants intensifying the achievement of the assumed learning outcomes <i>research, artistic, social and other activities not indicated in the curriculum, undertaken on the student's own initiative as a way of supplementing, enriching or extending the content and activities indicated in the module curriculum, intensifying the achievement of 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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Nature of the Upper Silesia
Module code		1BL_23_71
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>The scope of the course covers the issues of biodiversity on the local scale, namely characteristics of its diversity, assessment of its condition, changes, and threats. The student learns about the most valuable elements of regional nature (species, plant communities, natural habitats, types of landscape) and objects and areas under legal protection.</p> <p>The aim of the course is to familiarize with the diversity of flora, forest and non-forest vegetation, habitats, and fauna in Upper Silesia compared to other regions of the country. The student becomes acquainted with the natural values of Upper Silesia and changes occurring here with threats to vegetation, fauna, and habitats on a general level as well as in detail on the example of objects visited during the field visits. The acquired knowledge and skills will contribute to the understanding of the functioning of nature in conditions of strong anthropopressure and will justify the need to preserve and protect its diversity. The subject allows you to learn about the role of natural and anthropogenic areas in the large-industrial landscape and their role in preserving the diversity of plants and animals. It provides knowledge about the impact of anthropogenic pressure on terrestrial and aquatic ecosystems.</p>
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 competences (scale 1-5)	
K01	The student justifies the need to protect nature in the region and raise social awareness in this matter.	1BL_K02 1BL_K05	5 4	
U01	Demonstrates knowledge of the diversity of vegetation, fauna, and habitats of Upper Silesia compared to other regions of Poland and describes the state of their development and preservation.	1BL_U03 1BL_U10	5 4	
U02	The student presents threats and describes ways to protect the flora and fauna of Upper Silesia.	1BL_U03 1BL_U04 1BL_U10	4 4 5	
U03	Defines and explains the impact of human activity on the state of preservation and functioning of the flora and fauna of the region.	1BL_U03	5	

U04	Identifies and describes protected areas established in Upper Silesia and recognizes other valuable natural elements.	1BL_U03 1BL_U11	5 4
U05	The student presents the knowledge of the regional nature protection strategy, discusses the methods, and characterizes the actions aimed at its preservation and protection.	1BL_U03 1BL_U04 1BL_U10 1BL_U11	4 4 4 5
W01	Defines, classifies, and describes the basic concepts and terms concerning the nature of Upper Silesia and its protection.	1BL_W01 1BL_W04	5 4
W02	The student presents the relationship between the formation of associations of plants and animals and the conditions of the habitat, taking into account the specificity of the region, and defines the role of anthropogenic factors in maintaining the diversity of plants and animals in urbanized and industrialized areas.	1BL_W04 1BL_W07	4 5

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>

c08	Demonstration methods	Value-based methods – affective methods <i>methods of participating in exhibited moral, social, aesthetic and scientific values; activities evoking genuine emotional reactions to works/objects/actions; a method which activates an emotional response to the presented content, intensifies attention, depth of experience and a reflection on values</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>
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>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	lecture	10	course work	U01, U02, U03, U04, U05, W01, W02	a01, b04, c07, d03, f02
02	laboratory classes	35	course work	K01, U01, U02, U03, U04, U05, W01, W02	a03, a05, b04, c06, c08, d03, e06, e08, f01, f02

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>	Yes
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>	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>	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</i>	Yes

		<i>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>	
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Once upon a time there was life - the history of biological discoveries
Module code		1BL_23_85
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>The subject will familiarize students of natural sciences and humanities with the most important theories and laws of biology, along with the history of biological or medical discoveries, their fate, meeting with public criticism or persecution. Students will also learn about their relevance to today's life.</p> <p>Who wouldn't want to be an explorer? Fame, interviews, press articles and social media likes. Yes, maybe today. However, tracing the history of biological discoveries and the laws of nature shows that the former explorers did not become heroes at all. Public denial, criticism of secular and religious authorities, and even the scientific community was the order of the day. We invite every student interested in what has led to the level of our knowledge today, what were the fate of the discoveries and their announcers. An item not only for history buffs.</p>
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)
K01	During classes and after completing the course, the student conducts an objective self-assessment of his own work, demonstrates the ability to work independently and in a team, is responsible for the safety of his own and others' work, is able to creatively combine information in the field of economics, history, sociology and psychology with biological knowledge, creating syntheses of considerable power explanatory.	1BL_K01 1BL_K04 1BL_K05	2 3 4
U1	After completing the course, the student is able to name the basic biological terms, understands the importance of biological sciences in the modern world, is able to distinguish the basic research techniques used in biological sciences	1BL_U01 1BL_U03 1BL_U10 1BL_U11 1BL_U13 1BL_U15	2 2 3 3 3 3
W01	After completing the course, the student knows the basic laws and biological theories, knows the general history of biological sciences and the most important discoveries, understands the relationship between the natural sciences and	1BL_U15 1BL_W01	3 3

	the humanities, knows and understands the basics of evolution	1BL_W02	2
		1BL_W05	2
		1BL_W06	4
		1BL_W07	4

9. Methods of conducting classes			
Code	Category	Name (description)	
a03	Lecture methods / expository methods	<p>Description</p> <p><i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i></p>	
b02	Problem-solving methods	<p>Lecture-discussion</p> <p><i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i></p>	
b04	Problem-solving methods	<p>Activating method – discussion / debate</p> <p><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></p>	
b07	Problem-solving methods	<p>Activating methods: a case study</p> <p><i>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</i></p>	
b09	Problem-solving methods	<p>Activating method – flipped classroom</p> <p><i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i></p>	
c07	Demonstration methods	<p>Screen presentation</p> <p><i>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</i></p>	
d01	Programmed learning methods	<p>Working with a computer</p> <p><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></p>	
d02	Programmed learning methods	<p>Working with a programmed textbook</p> <p><i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</i></p>	

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>
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>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	discussion classes	15	course work	K01, U1, W01	a03, b02, b04, b07, b09, c07, d01, d02, d03, e06, e07, f01, f02, f03

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>		Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>		Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	Yes
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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>	No
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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>	No
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Open University Module
Module code		OMU-2023-SS-01-OG
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the module is to extend the students' knowledge to include specialist content that goes beyond their degree programme and to inspire them to search for information on their own. The issues addressed are on the one hand meant to arouse curiosity, and, on the other hand, to indicate the usefulness of interdisciplinary knowledge in professional life as well as in social relations and interactions. They will be connected with current research results or with specialist professional experience. The module offers diverse forms of classes, involving in both innovative and professional ways of conveying knowledge, as well as interactive methods, inspiring students to actively participate in classes. The interdisciplinary assumptions of the module allow for the classes being taught by teachers representing various scientific disciplines, resulting in a multi-faceted presentation of the issues. In addition, the module can be taught in foreign languages. The student selects the subject matter of the classes from the submitted proposals.
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)
	01	The student understands the relationship between humanities, social sciences, natural sciences, exact mathematical sciences, technical sciences and performing, visual and other arts.	OMU.2023_U01 OMU.2023_W01	3 3
	02	The student is able to combine information from various fields of knowledge, creating a coherent vision of an interdisciplinary issue.	OMU.2023_U01 OMU.2023_W01	3 3
	03	The student is able to search for necessary information in various types of sources and is able to critically select them.	OMU.2023_U01 OMU.2023_W01	3 3
	04	The student is able to move freely in the area of concepts pertaining to the issues discussed within the module, presented in detail in the relevant syllabuses.	OMU.2023_U01 OMU.2023_W01	3 3
	05	The student develops the need and the habit of accessing source information which goes beyond the content typical to the studied degree programme.	OMU.2023_K01 OMU.2023_U01	2 2

		OMU.2023_W01	2
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9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	depending on the choice	30	course work	01, 02, 03, 04, 05	a03, a05, b04, c07, d03, f01, f02

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</i>	No

		<i>range of activities indicated in it as required for full participation in classes</i>	
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Organic chemistry
Module code		1BL_23_14
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the Organic Chemistry module is to introduce students to the fundamental principles of organic chemistry. In each class of organic compounds, the student gains knowledge of the functional groups, nomenclature, structure, formation reactions, and characteristics. He is familiar in organic chemistry reaction processes. The learner gains knowledge about how to operate in an organic chemistry lab. He acquires the ability to perform basic microscale syntheses. He is knowledgeable on how to recognize chemical molecules.
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)
1BL_K01_P	Understands the importance of knowledge in solving problems. Analyzes critically available information.	1BL_K01 1BL_K04	4 4
1BI_U03_P	Can use sources of information and scientific texts.	1BL_U03	4
1BL_UO11_P	He is able to work independently and as part of a team.	1BL_U11	4
1BL_UO12_P, 1BLU09_P	Uses laboratory equipment, performs laboratory work, interprets the results of laboratory work, and presents the results of work in the form of reports.	1BL_U09 1BL_U12	4 5
1BL_W01_P	Students are understanding carbon chemistry, can name several classes of organic compounds, and are familiar with the synthesis processes and characteristics of various organic compound classes.	1BL_W01	5
1BL_W01_P	Knows and understands the laws and chemical concepts in the field of organic chemistry at an advanced level.	1BL_W01	4
1BL_W12_P	Knows the health and safety rules in the organic chemistry laboratory. Knows and applies the principles of sustainable development.	1BL_W12	5

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1BL_23_14	lecture	10	course work	1BL_K01_P, 1BL_W01_P, 1BL_W01_P, 1BL_U03_P	a01, a03, b02, f01, f02
1BL_23_14	laboratory classes	30	course work	1BL_K01_P, 1BL_U011_P, 1BL_U012_P, 1BL_U09_P, 1BL_W01_P, 1BL_W01_P, 1BL_W12_P, 1BL_U03_P	e01, f01, f02

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	No
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation	No

		<i>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</i>	
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</i>	No
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

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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Physical education
Module code		WF-2023
Number of the ECTS credits		0
Language of instruction		
Purpose and description of the content of education		Academic physical culture should be an integral and complementary part of the general educational program of the university. Physical culture consists of physical education, recreation, sport and tourism. The physical education module is the only area that creates the opportunity for implementing the body- and health-related values and provides a counterbalance to the mental workload of university students. It responds to the changing reality and to a large extent participates in the process of preparing the student for professional adult life as well as the life in the family and in the society. The aim of the classes in this/her module is to become familiar with and to learn the technical elements of the selected sports discipline. Also, to possibly consolidate the skills acquired at a previous stage of education. Thus, the student becomes equipped with the necessary knowledge about physical culture, its history and specific regulations. He/she becomes familiar with the organization of competitions and the recreational and tourist events. Through group cooperation and discipline, the classes develop self-esteem and instill life-long health-promoting attitudes.
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)
	K01	The student observes the rules of "fair play" on the sports field and in everyday life. He/she promotes the social and cultural importance of sport and exercise and cultivates his/her own preferences related to physical culture.		
	U01	The student uses sports facilities and equipment in a safe way, practices the correct warm-up and, if necessary, implements appropriate safety measures when exercising.		
	U02	The student is able to properly analyze the level of their own physical fitness and motor skills.		
	U03	The student is able to cooperate in a group and assume various roles: creating and supporting the attitudes of others, following the instructions of the coach or the teacher, as well as competition, rivalry and responsibility.		
	W01	The student has knowledge pertaining to the impact of physical exercise on human health. He/she knows the body needs and the forms of physical activity needed to maintain health, as well as the consequences and risks associated with the lack of exercise.		
	W02	The student knows the rules and regulation, rules of the games and the history of the chosen form of exercise.		

9. Methods of conducting classes		
Code	Category	Name (description)
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
e05	Practical methods	Internship <i>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</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
01	practical classes	30	course work	K01, U01, U02, U03, W01, W02	b03, c06, e05, e06

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Plan your education path
Module code		1BL_23_01
Number of the ECTS credits		0
Language of instruction		Polish
Purpose and description of the content of education		<p>The module aims to familiarize the student with the opportunities for his educational development at the Institute of Biology, Biotechnology and Environmental Protection.</p> <p>The student, participating in a brief presentation of the scientific interests of the Institute's representatives, will see its role in solving various scientific and research problems of both local and global importance and will receive information about research directions that may interest him. Thanks to such activity, the determination to continue to study more consciously, to develop abilities and passions, and in the future, to be a well-trained biotechnologist/specialist in a particular field will be strengthened, which will bring personal and professional satisfaction.</p>
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)
K_1	The student identifies and carries out an analysis of their strengths and assets while studying Biology. He understands how vital a role in life is, which interests him.	1BL_K01	4	
		1BL_K02	1	
		1BL_K03	2	
K_2	The student recognizes the importance of active membership in a research group to acquire new knowledge and skills. Consciously plans an educational and professional career.	1BL_K01	2	
		1BL_K02	2	
		1BL_K03	5	
		1BL_K05	2	
W_1	The student knows the scope of research conducted at the IBBiOŚ Institute. Analyzes the existing and future knowledge and its relevance in professional life.	1BL_K01	2	
		1BL_K03	2	
		1BL_W13	3	

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</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>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	lecture	5	course work	K_1, K_2, W_1	a03, c02, d03, f03

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
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
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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University	No



		<i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Plant biology in different habitats
Module code		1BL_23_35
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		Objective: to provide the student with basic knowledge of the biology of species in diverse habitats and their adaptive abilities. The life and development of plants in various habitat conditions indicates a wide range of adaptations of organisms (plants). Particular attention is paid to the level of habitat humidity, availability of light, thermal and topoclimatic conditions. During the course, ecophysiological, anatomical, morphological, edaphic and biological diversity of selected plant species will be discussed. Species with a narrow and wide ecological amplitude will be presented. The biological consequences of the species in relation to the habitat they occupy will be presented. The subject teaches the ability to plan and carry out simple experiments, observations and analyzes of selected elements of the morphological structure of the discussed species, as well as ecophysiological parameters characterizing the life functions of plants in various habitats.
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)	
w1	knows and understands the relationships and dependencies between chemical, physical and biological processes occurring in nature	1BL_W01	1	
w2	knows and understands the importance of plant diversity at the level of structure and function, resulting from the settlement of various habitats	1BL_U01	1	
		1BL_U05	1	
		1BL_U12	1	
		1BL_W04	2	
		1BL_W08	1	
w3	Knows and uses basic IT and statistical tools to interpretation phenomena in the biology of the species observed during classes and to analyze data obtained as a result of the research	1BL_W04	3	
		1BL_W08	2	
		1BL_W09	3	
w4	Based on the latest literature, he discusses the criteria for selecting the appropriate plant species depending on the type of habitat, he is ready to deepen his knowledge of the biology of the species	1BL_U01	3	

		1BL_U03	3
		1BL_U11	3
		1BL_U12	2
		1BL_U14	1
		1BL_U15	1
		1BL_W04	3
w5	Can critically evaluate the results obtained during classes and is ready to seek an expert's opinion in case of difficulties with independent problem solving	1BL_U03	3
		1BL_U07	3
		1BL_U14	2
		1BL_W02	3
		1BL_W04	3

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c01	Demonstration methods	Exhibition

		<i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1W	lecture	8	course work	w1, w2, w3, w4, w5	a01, a03, b01, b02, b09, c01, c02, c07, d01, d02, e01, e06,

					e07, f01, f02
2L	laboratory classes	37	course work	w1, w2, w3, w4, w5	a05, b07, c01, c07, d01, d02, e01, f02

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>		Yes
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>		Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>		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
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Plant physiology
Module code		1BL_23_22
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		The Plant physiology module enables the student to learn about the following processes in plants: water uptake and transport, the function of macro- and micronutrients and mechanisms of their uptake, types of photosynthesis and their chemistry, catabolic processes with special emphasis on processes occurring primarily in plants, types of phytohormones and their synthesis, the role of phytohormones in plant growth and development and their mechanisms of action, photomorphogenesis, photoperiodic induction, plant movements, photoreceptors and their involvement in plant growth and development, the adaptation of plants to adverse environmental conditions.
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)
1	Defines, classifies, and describes basic concepts and terminology of plant physiology.	1BL_W02		5
2	Presents processes related to the exchange of substances between the cell and the environment and the basic catabolic and anabolic processes, particularly emphasizing the processes occurring mainly in plants.	1BL_K05		2
		1BL_W03		3
		1BL_W04		5
3	Can demonstrate the relationships between different metabolic pathways.	1BL_W04		4
4	Describes and explains the phenomena that occur during plant growth and development.	1BL_W04		5
		1BL_W05		1
5	Carries out simple experiments, describes the experiment's effects, analyzes the results, draws conclusions, and presents them as a report.	1BL_U01		4
		1BL_U06		5
		1BL_U08		5
		1BL_U09		5
		1BL_U11		4

		1BL_U12	5
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>	
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>	
b07	Problem-solving methods	Activating methods: a case study <i>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</i>	
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</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>	
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>	
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
1	laboratory classes	48	course work	1, 2, 3, 4, 5	b09, e01, e06, e08
2	discussion classes	6	course work	1, 2, 3, 4	b02, b07
3	lecture	16	exam	1, 2, 3, 4	a01, f02

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>		Yes
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
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
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>		Yes
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Plants in biotechnology
Module code		1BL_23_49
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module provides knowledge of the primary methods used in plant biotechnology and recognizes their benefits and risks. Defines the methodological basis of in vitro cultures and genetic transformation of plants. It presents the basic knowledge of the action of chemical and physical mutagens in plant organisms. It provides the student with knowledge of the applications of mutagenesis in basic research, biotechnology, and practical plant breeding. Laboratory classes familiarize students with basic biotechnological techniques, including the genetic transformation of plants, in vitro plant regeneration, and analysis of transgenic plants, as well as assessment of the influence of mutagens on DNA structure. In self-conducted experiments, the student learns the skills of working in a specialized biotechnology laboratory, recognizes the risks and rules of handling transgenic material, collects empirical data, and analyzes and interprets the results of the conducted experiments. Possibilities of using biotechnology in agriculture, environmental protection, and other branches of the economy as well as in basic research, are presented.
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)	
1BL_23_49_1	Lists and defines the basic methods of plant biotechnology, including techniques of genetic transformation and in vitro cultures of cells and tissues, types of mutations induced by the action of physical and chemical mutagens, and explains the theoretical basis of the known methods of evaluating the effect of mutagens on the plant genome.	1BL_W02	5	
		1BL_W05	5	
1BL_23_49_2	Recognizes and applies the basic techniques used in the biotechnology laboratory focused on working with plant material.	1BL_U06	5	
		1BL_U11	5	
		1BL_U12	5	
		1BL_W02	5	
		1BL_W05	5	
		1BL_W08	5	
1BL_23_49_3	Plans and performs analyses using molecular tests to detect DNA damage. Describes the effects of the experiment,	1BL_U01	5	

	analyze the results, draw conclusions, and present them as a report.	1BL_U04 1BL_U05 1BL_U06 1BL_U09 1BL_U11 1BL_W02 1BL_W05	5 5 5 5 5 5 5
1BL_23_49_4	It applies the principles of bioethics and the principles of safe handling of transgenic material	1BL_W12	5
1BL_23_49_5	Understands and describes the application of mutagenesis in basic research, biotechnology, and plant breeding.	1BL_W02 1BL_W05	5 5

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>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text

		searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue
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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
1BL_23_49_w_1	lecture	10	course work	1BL_23_49_1, 1BL_23_49_2, 1BL_23_49_3, 1BL_23_49_5	a01, b01, b04, c07, f01, f02
1BL_23_49_w_2	laboratory classes	35	course work	1BL_23_49_1, 1BL_23_49_2, 1BL_23_49_3, 1BL_23_49_4, 1BL_23_49_5	c07, e01, f02

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>		Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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</i>		Yes

	<i>of the task aimed at checking the level of the achieved learning outcomes</i>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Practical aspects of nature protection
Module code		1BL_23_70
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the module is to present the effects of specific activities in nature protection against the background of selected methods at the level of species, natural habitat, surface forms of nature, and landscape protection on specific examples in the immediate vicinity. The module analyzes the issues of species protection in situ, ex-situ, reintroduction, and ecological restitution, taking into account legal conditions. Selected examples also emphasize the importance of knowledge of the biology of the species in its effective protection. The student will also learn about the methodology of identifying natural habitats and the principles of their monitoring. The aspect of threats caused by invasive alien species and methodological approaches to combating them are also discussed. The student is introduced to the issues of ecosystem services as one of the motivations for the protection of individual elements of the natural environment.
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)	
K01	The student is aware of the need to take protective measures due to the economic importance of individual elements of the natural environment for humans.	1BL_K05	5	
U01	Interprets the impact of changing ecological conditions, including climate changes, on the condition of individual elements of the natural environment.	1BL_U03 1BL_U07	5 4	
U02	The student indicates the need for a comprehensive approach to nature conservation with the use of its biological basics.	1BL_U03	4	
W01	The student has knowledge about the diversity of plants and animals and the general conditions of the diversity of vegetation and knows the principles of monitoring species and natural habitats.	1BL_W07 1BL_W08	5 4	
W02	The student knows the basic legal acts concerning nature protection in the country, in Europe, and in the world, and discusses various practical solutions in specific cases of conservation activities.	1BL_W02 1BL_W07	3 3	

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>
b07	Problem-solving methods	Activating methods: a case study <i>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</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>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	lecture	15	course work	W01, W02	a01, b04, b07
02	field practice	30	course work	K01, U01, U02	e01, e06, f03

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	No

		<i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</i>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module		
Module name		Regulation of the differentiation and function of plant cells and tissues	
Module code		1BL_23_47	
Number of the ECTS credits		3	
Language of instruction			
Purpose and description of the content of education		<p>The main assumption of the course is to provide basic knowledge about the factors involved in the regulation of cell differentiation and growth, which will not only broaden students' knowledge in the field of basic sciences, but also show how this knowledge can be used in practice (agriculture, horticulture and tissue culture). The aim of the course is for the student to obtain: (1) Basic knowledge of selected mechanisms regulating cell differentiation and growth, with particular emphasis on the role selected hormones (mainly auxins) in developmental pathways: "from the top", "from the cambium" and in in vitro cultures, symplasmic communication as a factor regulating plant morphogenesis, and the impact of biotic and abiotic factors on the differentiation of plant cells, physiological phenomena regulated by auxins and molecular mechanisms of auxins operation, including biosynthetic pathways and perception. (2) Skills in planning and conducting simple experiments, observations and analyzes of selected parameters characterizing the impact of the indicated ones above factors on the vital functions of plants. (3) Practical skills in conducting simple experiments, analyzing them and making scientific documentation. (4) The ability to creatively express one's own thoughts and views.</p>	
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)
K_01		He understands the importance of knowledge in solving problems.	1BL_K01	4
U_01		He can use the basic techniques and research tools of experimental biology.	1BL_U01	4
U_02		Can plan and perform simple physical, biological and chemical measurements in the laboratory and make appropriate observations.	1BL_U12	3
W_01		Has knowledge of the basic laws of physics and chemistry necessary to understand the processes related to the basic mechanisms of regulating the differentiation of plant cells.	1BL_W01	4
W_02		Knows and understands the structure and functioning of organisms at different levels of life organization and understands the relationship between the influence of internal and environmental factors on cell differentiation.	1BL_W03	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>
c07	Demonstration methods	Screen presentation <i>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</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>

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
L_01	laboratory classes	30	course work	K_01, U_01, U_02	e01
W-01	lecture	15	course work	W_01, W_02	a01, c07

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
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Remediation of degraded lands
Module code		1BL_23_48
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		Objective: to obtain knowledge about the causes and effects of degradation of various elements of the environment, classification of degraded and devastated areas and various ways of their reclamation. The module provides current knowledge and practical grounds for the development of anthropogenically transformed areas, natural processes taking place in post-industrial areas, as well as the possibility of shaping and creating habitats in degraded areas with the use of appropriate species of plants and animals. The module enables knowledge of the basic methods of reclamation and revitalization of degraded areas corresponds to the basic principles of Polish law and the implemented law of the European Union.
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)	
w1	Has basic knowledge of the classification of organisms, biodiversity, understands the natural phenomena and processes that shape it and the human impact on the environment on a local, regional and global scale	1BL_K01 1BL_U07 1BL_U11 1BL_W07 1BL_W08 1BL_W09 1BL_W12	3 3 2 3 2 2 3	
w2	Knows the types of experimental and field methods and lists modern laboratory, measurement and imaging techniques constituting advanced knowledge in this field	1BL_K01 1BL_K04 1BL_U01 1BL_U03 1BL_U10	3 3 2 3 3	

		1BL_U11	3
		1BL_W08	3
w3	He knows the rules of occupational health and safety	1BL_W12	3
w4	By participating in a debate, seminar or discussion, the student is able to present and evaluate various opinions and positions and discuss them	1BL_K01	3
		1BL_K04	3
		1BL_K05	3
		1BL_U03	3
		1BL_U10	4
		1BL_U11	3
		1BL_W08	2
w5	Can develop a selected biological problem, under the supervision of a tutor, based on literature data and the results of his own research	1BL_K01	3
		1BL_K02	3
		1BL_U07	4
		1BL_U09	3
w6	Presents the results of independent work in the form of reports, papers and essays, is able to independently prepare documentation of the observations	1BL_U09	4
		1BL_U11	3
		1BL_W07	3

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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</i>

		<i>in the field or pre-selected representatives of a group dealing with a common problem</i>
b05	Problem-solving methods	Activating method – seminar / proseminar <i>a seminar method; usually an oral presentation of a previously studied/diagnosed problem delivered on a forum; it aims at provoking a discussion concerning the results of research work; a type of conference, course or training session modelled on seminar classes</i>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</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>
e09	Practical methods	Plein air session <i>implementation of a creative task in an open-air area, e.g. outside the studio</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>

f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
1W	lecture	8	course work	w1, w2, w3	a01, a03, b01, c01, c07, d01, d02, f01
2L	field practice	9	course work	w1, w2, w3, w4, w6	c01, c07, e01, e06, e09, f02
3Kon	discussion classes	13	course work	w1, w2, w4, w5, w6	b02, b04, b05, b07, c02, c07, f01, f02, f03

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>	Yes
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>	Yes
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
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
d01	Consulting the results of the verification of	Analysis of the corrective feedback provided by the academic teacher on the results of the	Yes

	learning outcomes	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>	
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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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Scaling in biology
Module code		1BL_23_73
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The subject enables students to acquire practical skills including comparing the scale of biological objects/structures observed at different levels of organization, understanding the related size hierarchy and its impact on the construction and functioning of structures from subcellular to organisms. During the course, the student is to realize the consequences for the functioning of organisms at every level of their organization, have shape, size and mutual relations of surface and volume. The aim of the course is for the student to obtain: (1) knowledge of the importance of size to the functioning of biological objects; (2) practical skills allowing to (a) determine the real dimensions of biological objects observed at various scales (from macro to nano) using optical and electron microscopes; (b) the use of linear and logarithmic scales as a tool to represent a wide range of measurement data; (c) the use of units and sub-units in sizing an object and assigning an appropriate scale; (3) competencies for independent and critical analysis of the obtained measurement results and discussion of the results in a group.
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)	
K_01	He understands the importance of knowledge in solving problems, is able to critically assess his knowledge and is ready to consult experts in case of difficulties with independent problem solving.	1BL_K01	4	
U_01	He can use the basic techniques and research tools of experimental biology to determine the relationship shape, size and surface as well as the consequences of size relationships for the functioning of living organisms and mathematical and statistical methods to describe and analyze data.	1BL_U12	4	
U_02	Is able to plan and perform simple physical, biological and chemical measurements in the laboratory and make the appropriate ones observation.	1BL_U12	4	
W_01	Has knowledge of the basic laws of physics and chemistry necessary to understand natural processes and phenomena in terms of scaling various elements of the cell structure, organ tissues and nanstructures.	1BL_W01	4	
W_02	Knows and understands the methodology of biological experimental research allowing to determine the actual dimensions biological objects and nanostructures.	1BL_W09	4	

9. Methods of conducting classes		
Code	Category	Name (description)
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>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</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>

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
K_01	discussion classes	10	course work	U_02, W_01, W_02	b04, b09
L_01	laboratory classes	20	course work	K_01, U_01, U_02, W_01, W_02	e01

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
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>	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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Soil ecology
Module code		1BL_23_61
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module prepares the student for practical field and laboratory investigations of soil's biological, chemical, and physical properties. Within the module's framework, the student learns the importance of soil biodiversity in ecosystem services, methods for determining selected soil parameters influencing soil functions, and analyses the possibilities for action for soil protection.
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)
K_1	The student identifies, designs and undertakes soil conservation measures.	1BL_K01	5	
		1BL_K04	5	
		1BL_K05	5	
U_1	The student describe and classify soil ecosystem services and the impact of soil on climate and human life	1BL_U03	5	
		1BL_U04	5	
U_2	The student can apply soil biodiversity assessment methods, collection, extraction, counting and preparation of invertebrates and sampling to assess physical and chemical parameters. The student follows the principles of health and safety at work.	1BL_U01	5	
		1BL_U08	5	
		1BL_U11	5	
U_3	The student understands, analyses and interprets the interactions between elements of the soil ecosystem.	1BL_U07	5	
		1BL_U08	5	
		1BL_U09	5	
W_1	The student has knowledge of soil function, its biological, chemical and physical properties.	1BL_W01	5	
		1BL_W02	5	
		1BL_W07	5	

9. Methods of conducting classes		
Code	Category	Name (description)
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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
01	discussion classes	8	course work	K_1, U_1, W_1	b02, b04, c07
02	laboratory classes	22	course work	U_2, U_3, W_1	b01, c06, 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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>			Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Sustainable development
Module code		1BL_23_77
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the course is for the student to obtain: (1) knowledge about contemporary civilization threats and the concept of sustainable development on examples of programs and activities implemented on various scales: global, regional, and local; (2) the ability to independently identify environmental problems and creatively discuss proposed solutions in accordance with the assumptions of sustainable development; (3) competencies for shaping the attitude and behavior corresponding to the concept of sustainable development by assuming various roles in individual work and teamwork.
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)
K01	The student explains the concept of sustainable development as the only rational model of civilization development and characterizes the ways to evaluate it.	1BL_K01	5	
		1BL_K02	4	
K02	The student discusses and evaluates the possibilities of implementing the idea of sustainable development on the example of specific solutions.	1BL_K02	5	
		1BL_K04	4	
		1BL_K05	4	
K03	The student shapes attitudes and behaviors corresponding to the concept of sustainable development, assuming various roles at individual work and teamwork.	1BL_K01	5	
		1BL_K02	5	
		1BL_K04	4	
		1BL_K05	4	
U01	Lists and explains the causes and effects of biodiversity loss in various spatial scales and discusses the possibility of sustainable use of natural environmental resources.	1BL_U03	4	
		1BL_U04	4	

U02	Identifies the environmental problem and proposes its solution, taking into account the idea of sustainable development.	1BL_U03 1BL_U06 1BL_U10 1BL_U11 1BL_U12 1BL_U15	5 5 4 5 3 3
W01	The student defines the concept of "sustainable development" on the basis of national and international law documents and indicates contemporary civilization threats on a global, regional, and local scale.	1BL_W07	5

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>

b10	Problem-solving methods	SWOT analysis <i>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</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</i>
c08	Demonstration methods	Value-based methods – affective methods <i>methods of participating in exhibited moral, social, aesthetic and scientific values; activities evoking genuine emotional reactions to works/objects/actions; a method which activates an emotional response to the presented content, intensifies attention, depth of experience and a reflection on values</i>
c09	Demonstration methods	Value-based methods – expressive methods <i>methods of accessing value-related knowledge, experiencing values in emotion-laden activities; creating situations enabling the creation or reproduction of values as a way of self-expression combined with experiencing values (individually or in a group); actions, most often creative, involving an expressive and suggestive way of expressing emotions</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>
e04	Practical methods	Project scheduling <i>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</i>
e08	Practical methods	Practice-as-research <i>also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks</i>
e09	Practical methods	Plein air session <i>implementation of a creative task in an open-air area, e.g. outside the studio</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>

f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</i>
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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
01	lecture	10	course work	K01, K02, K03, U01, U02, W01	a01, b04, c07, d03, f01, f02
02	laboratory classes	30	course work	K01, K02, K03, U01, U02, W01	a03, a05, b04, b07, b08, c06, c08, c09, d03, e04, e08, e09, f02, f03
03	discussion classes	5	course work	K01, K02, K03, U01, U02, W01	a05, b04, b08, b09, b10, c07, c08, c09, d03, e04, f01, f02, f03

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>	Yes
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>	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</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
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>	No
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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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</i>	Yes

		<i>of the task aimed at checking the level of the achieved learning outcomes</i>	
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	Yes
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Synanthropisation of plant and fauna cover
Module code		1BL_23_50
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the module is to familiarize the student with the causes, manifestations, and effects of synatropization of vegetation and fauna, as well as with the ways of its identification and assessment at different scales: regional and local. The student learns (and discusses) the mechanisms and consequences of human influence on vegetation and diversity of fauna, and assimilates natural terms and classifications used in research on the synanthropization of vegetation and fauna. The student independently identifies environmental problems and discusses and proposes possible solutions.
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)	
K01	develops attitudes resulting from the awareness of threats that may be caused by the process of synanthropization.	1BL_K04	4	
		1BL_K05	3	
U01	identifies and characterizes species of synanthropic plants and animals, including urbanized areas.	1BL_U01	4	
		1BL_U05	5	
U02	can estimate the scale of the synanthropization process in a given area using appropriate indicators	1BL_U03	3	
		1BL_U07	4	
		1BL_U09	5	
W01	recognizes, names, describes, and explains the signs and mechanisms of anthropogenic changes in fauna and flora.	1BL_W02	5	
		1BL_W07	4	
W02	lists and explains the causes and effects of the disappearance of native species of animals, plants, and plant communities and the spread of species of foreign origin.	1BL_W07	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>
b07	Problem-solving methods	Activating methods: a case study <i>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</i>
c07	Demonstration methods	Screen presentation <i>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</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
01	lecture	10	course work	W01, W02	a01, b04, c07
02	laboratory classes	20	course work	K01, U01, U02	b04, b07, c07, 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
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>	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
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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Techniques for visualizing nanoparticles
Module code		1BL_23_76
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		<p>The wide application of nanoparticles (for example in: biology, cosmetology, dentistry, medicine, agriculture) implies their increasing presence in the ecosystem. The idea of this course is to discuss nanoparticle visualization techniques, to present currently available research methods and to acquire practical skills for students to conduct selected analyses.</p> <p>The aim of the course is for the student to obtain:</p> <p>(1) basic knowledge in the field of currently used methods of nanoparticle analysis (transmission and scanning electron microscope),</p> <p>(2) acquisition of practical skills in selected techniques of nanoparticle analysis,</p> <p>(3) acquiring competencies in the field of independent development of source materials, performing electrogram analysis.</p>
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)
	K01	understands the importance of knowledge in solving problems, is able to critically assess the possessed knowledge and is ready to seek the opinion of experts in case of difficulties with independent problem solving	1BL_K01	3
	U01	Can plan and perform simple physical, biological and chemical measurements in the laboratory and make appropriate observations based on the visualization of nanoparticles.	1BL_U01	3
	U02	Able to work independently and communicate with a group during teamwork.	1BL_U11	4
	W01	He knows and understands the methodology of biological experimental research allowing for the visualization and detection of nanoparticles in living organisms.	1BL_W08	3
	W02	He knows and understands the structure and functioning of organisms at every level of life organization and understands the relationship between the organism and the environment in connection with the influence of nanoparticles on their structure and function.	1BL_W04	3

9. Methods of conducting classes		
Code	Category	Name (description)
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
K_1	discussion classes	10	course work	K01, U02, W02	b02, c07, f02
L_1	laboratory classes	35	course work	U01, W01	b02, c07, e01

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
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	No
d01	Consulting the results of the verification of	Analysis of the corrective feedback provided by the academic teacher on the results of the	Yes

	learning outcomes	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>	
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module		
Module name		Techniques of plant tissues analysis	
Module code		1BL_23_52	
Number of the ECTS credits		3	
Language of instruction			
Purpose and description of the content of education		<p>Modern science uses methods that allow for the analysis of the spatiotemporal location of proteins, wall components, hormones, enzymes, and other compounds involved in the regulation of plant development. Histochemical techniques, and in particular immunohistochemistry, are an indispensable research tool for a biology student.</p> <p>The aim of the course is to provide students with practical skills in the detection of plant cell components using histological and immunohistochemical techniques.</p> <p>The laboratory includes:</p> <p>1/ Practical learning of:</p> <p>a) Procedures used to prepare plant material for histological and immunohistochemical analyses.</p> <p>b) Selected, modern histological methods.</p> <p>c) Immunohistochemical methods for localization of cell wall components.</p> <p>2/ Making photographic documentation and its analysis.</p> <p>In addition, the student will gain knowledge about the practical principles of working with a light microscope (fluorescent, laser scanning confocal microscope) and will consolidate practical skills in the preparation of microscopic preparations.</p>	
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)	
K01	Discusses the possibilities of using known histological techniques in biotechnology and related fields.	1BL_K01	3	
U01	Can use the basic research techniques and tools of experimental biology to analyze plant cells and tissues, as well as microscopic and immunohistochemical methods to describe the structure and function of plants.	1BL_U01	3	
U02	Can work independently and communicate with a group during teamwork.	1BL_U11	5	
W01	Knows and understands the methodology of experimental biological research allowing for histological analysis of plant cells and tissues using various techniques, including molecular ones, and basic theories in biology.	1BL_W08	5	
W02	Knows and understands the structure and functioning of plant organisms at a specific level of life organization.	1BL_W04	3	

9. Methods of conducting classes		
Code	Category	Name (description)
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
c07	Demonstration methods	Screen presentation <i>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</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>

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
L_1	laboratory classes	40	course work	U01, U02, W02	c07, e01
W_1	lecture	5	exam	K01, W01	b02, c07

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</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
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		The area of “Civil Society and Entrepreneurship: Entrepreneurship”
Module code		MO-2023-SS-SOP-P
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the module is to develop in students a creative attitude towards reality and to familiarize them with the organizational and legal conditions of operating in those sectors of social life in which they can function independently after they graduate. The module prepares students to take up business activity, start a company or an organization whether in the sphere of business, in the third sector (foundations, associations, etc.), or in the broadly understood sector of education, culture and art. Studying the module, students become familiar with the principles of starting, running and financing a business venture, as well as other forms of enterprise or organization, e.g. limited liability companies, joint-stock companies, foundations, associations, etc., they identify basic market mechanisms determining the nature of the conducted activity, in particular the legal, social and ethical framework for conducting it, and gain the ability to independently identify opportunities and threats (risks).
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)
KS_01	Is ready to meet social obligations, co-organize activities for the benefit of the community and is open to scientific solutions to cognitive and practical problems.	MOB.2023_K01 MOB.2023_W02_P	3 3
KS_02	Is prepared and motivated to act in an entrepreneurial and creative way and with respect for the norms and rules of coexistence applicable in diverse cultural environments.	MOB.2023_K01 MOB.2023_W02_P	3 3
U_01	Asks questions, analyzes research problems, and finds solutions to them, making use of knowledge, skills and experience pertaining to entrepreneurship, in conjunction with the leading discipline of the degree programme.	MOB.2023_U01	3
U_02	Communicates the results of his/her work connected with entrepreneurship in a way which is clear and understandable not only to specialists.	MOB.2023_U01	3
U_03	Can use knowledge in the field of entrepreneurship to design, implement and evaluate their own business or other activities undertaken in cooperation with other entities.	MOB.2023_U01	3
W_01	Has advanced knowledge of selected scientific theories and methods regarding entrepreneurship, including legal and organizational aspects of conducting one's own business or some other activity.	MOB.2023_W01	3

		MOB.2023_W02_P	3
W_02	Knows and understands the characteristic features which define thinking and acting in an entrepreneurial way in the context of the leading discipline of the degree programme.	MOB.2023_W01 MOB.2023_W02_P	3 3

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	depending on the choice	30	course work	KS_01, KS_02, U_01, U_02, U_03, W_01, W_02	a03, a05, b04, c07, d03, f01, f02

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	
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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	
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		The area of “Civil Society and Entrepreneurship: Vade mecum on Law”
Module code		MO-2023-SS-SOP-VP
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The aim of the module is to acquire knowledge and skills pertaining to selected legal issues. Having completing the module, the student will possess knowledge of the principles governing key branches of law and the ability to correctly interpret legal texts (acts, administrative decisions, contracts). The topics students will become familiar with include: building an individual career path and protecting intellectual property. As a consequence, the student will gain knowledge about the rights and obligations in particular areas of law and the ability to implement them as a member of civil society.
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)	
KS_01	Is ready to meet social obligations, co-organize activities for the benefit of the community and is open to scientific solutions to cognitive and practical problems.	MOB.2023_K01	3	
U_01	Asks questions, analyzes research problems, and finds solutions to them, making use of knowledge, skills and experience pertaining to selected legal issues and their implementation, in conjunction with the leading discipline of the degree programme.	MOB.2023_U01	3	
U_02	Communicates the results of his/her work on selected legal issues and their implementation in a way which is clear and understandable not only to specialists.	MOB.2023_U01	3	
U_03	Can apply knowledge of selected legal issues to design and pursue his/her own professional career as well as conducting diverse community activities.	MOB.2023_U01	3	
W_01	Has fundamental knowledge of rights and obligations relevant to the academic discipline and in conjunction with the leading discipline of the degree programme.	MOB.2023_W01 MOB.2023_W03_VP	3 3	
W_02	Understands the connection between legal issues, especially those pertaining to civil rights and obligations and their implementation, and the leading discipline of the degree programme.	MOB.2023_W01 MOB.2023_W03_VP	3 3	
W_03	Knows and understands key legal issues defining the way of thinking and proceeding while fulfilling civil rights and			

	obligations.	MOB.2023_W01	3
		MOB.2023_W03_VP	3
W_04	Has a well-organized knowledge of legal principles and norms, including those pertaining to the protection of industrial property and copyright, in the context of the studied issues.	MOB.2023_W01	3
		MOB.2023_W03_VP	3

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</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>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	depending on the choice	30	course work	KS_01, U_01, U_02, U_03, W_01, W_02, W_03, W_04	a03, a05, b04, c07, d03, f01, f02

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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>		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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Theories of modern biology
Module code		1BL_23_12
Number of the ECTS credits		2
Language of instruction		Polish
Purpose and description of the content of education		The Theories of modern biology module is a compensatory class that helps first-year students systematise their biology knowledge at a level that enables them to effectively assimilate the content covered by the first-cycle study program of Biology. It is also designed to encourage students to deepen their biological sciences knowledge and analyze the acquired information critically. After completing the module, the student should know the main concepts of modern biology, understand their implications and limitations resulting from the adopted research methodology, and present them using appropriate biological terms and concepts.
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)
K01	The student is critical of information disseminated in the media, especially in the field of natural sciences. Understands the need for continuous training and systematic improvement of his skills. Can formulate opinions on basic natural issues and popularize knowledge in this field of science.	1BL_K01	2	
		1BL_K04	2	
		1BL_K05	2	
U01	The student searches for information from scientific literature and electronic databases recommended for natural sciences in the native language and can integrate the acquired knowledge. The student is familiar with contemporary research trends in the natural sciences and speaks about selected issues in this field using the scientific language typical of biological sciences.	1BL_U03	2	
		1BL_U04	3	
		1BL_U10	2	
		1BL_U15	2	
W01	The student describes and explain the differences in the structure and function of prokaryotic and eukaryotic cells. Presents and explains the rules of inheritance. Explains the theoretical basis of experimental and field methods; describes and interprets natural phenomena. Understands the physico-chemical-biological relationships in nature.	1BL_W01	2	
		1BL_W03	2	
		1BL_W05	2	
		1BL_W07	2	
		1BL_W08	2	

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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</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
01	discussion classes	24	course work	U01, W01	a03, b02, b04, c07, d03, f01, f02
02	lecture	6	course work	K01	a01, b01, b02, c02, c07, d03, f01
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>			Yes
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>			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>			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>			Yes
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
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Toxicology
Module code		1BL_23_53
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The module aims to familiarize the student with the issues of toxicity of compounds present in the environment. It involves presenting the factors determining the toxicity of chemical compounds, dose-effect and dose-response relationships. Special emphasis is placed on the mechanisms of toxin action on living organisms and methods of detoxification. The student acquires skills in applying selected toxicological tests by the current European standards, as well as in planning and conducting experiments related to quantitative relationships between the concentration of xenobiotics and the effect of their toxic action on the organism.
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)	
K01	Understands the significance of knowledge in addressing problems arising from organism exposure to specific toxins, can critically assess the acquired knowledge, and is willing to seek expert opinions in case of difficulties encountered while independently solving the problem	1BL_K01	5	
K02	Demonstrates the need for continuously updating acquired toxicological knowledge, understands the importance of disseminating information about new advancements in this field to the public, and can convey this information understandably.	1BL_K05	5	
U01	Possesses the ability to utilize selected techniques and research tools in experimental and environmental toxicology.	1BL_U01	4	
U02	Applies advanced mathematical and statistical methods for data analysis and result interpretation, and is proficient in utilizing computer software packages for their application in toxicology and everyday life.	1BL_U02 1BL_U08	5 5	
W01	Knows and understands, to an advanced degree, the interdependencies between chemical structure and dosage, as well as the strength and scope of toxins' effects on living organisms.	1BL_W01 1BL_W02	5 5	
W02	Knows and understands advanced the functioning of the organism (both plant and animal) as a whole, and they describe the mechanisms of toxin action on living organisms and methods of detoxification in various organisms. They also assess the direct and indirect effects of toxins in the environment.	1BL_W04 1BL_W07	4 4	

W03	Knows and understands advanced mathematical and statistical methods, as well as the necessary computer tools, to interpret the fate of toxins in the body and explain the mechanisms of their toxic action, and can analyze data from experimental and field studies.	1BL_W09	5
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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>
b03	Problem-solving methods	Activating method – educational games <i>learning content in the guise of a rule- and/or principle-based game; conducted in a deliberately arranged situation based on the description of relevant facts and processes; learners compete with one another within the framework of rules laid down by the academic teacher; varieties include simulation games – involving a simulation of real situations; decision games – based on the decision-making process and the recognition of the consequences of the decisions made (e.g., a decision tree); psychological games – increasing the emotional-volitional component of the participants' attitudes</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>
c07	Demonstration methods	Screen presentation <i>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</i>
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 down by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>

f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
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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
01	lecture	15	course work	K01, K02, W01, W02, W03	a01, b03, c07, f01, f02
02	laboratory classes	30	course work	U01, U02, W01, W02	a01, b04, c07, d01, e01, e06, f01, f02

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>		Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>		Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</i>		Yes
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>		Yes
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Use of animals in scientific research
Module code		1BL_23_64
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The course covers the Polish and European legal basis and principles of using animals for experimental purposes. The course aims to prepare students to participate in procedures related to the use of animals for scientific or educational purposes and to acquire skills in planning research and preparing the documentation necessary to obtain approval from an ethics committee.
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)	
K_1	Understands the importance of knowledge in problem-solving, can critically appraise his/her knowledge and is ready to consult experts when they have difficulties solving a problem independently.	1BL_K01 1BL_K03 1BL_K04	5 5 5	
U_1	Be able to independently plan an experiment, identify its purpose, the severity category of the scheduled procedures and justify the use of selected animal species in the investigation and their number.	1BL_U01 1BL_U03 1BL_U05 1BL_W10	5 5 5 5	
U_2	Be able to independently prepare an application to the local ethical committee for animal experiments for approval to carry out an investigation and to prepare retrospective evaluation documentation.	1BL_U06 1BL_U09	5 5	
W_1	Princpant is familiar with the Polish and European legal basis and the rules on using animals for experimental purposes.	1BL_W13	5	
W_2	Understands the need to protect animals used for scientific and educational purposes and knows the conditions for ensuring their welfare.	1BL_W08	5	

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>
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c07	Demonstration methods	Screen presentation <i>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</i>
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 down by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline</i>
e04	Practical methods	Project scheduling <i>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</i>
e05	Practical methods	Internship <i>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</i>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education

		<i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
01	lecture	5	course work	W_1, W_2	a01, c07, d01, f01, f02
02	discussion classes	40	course work	K_1, U_1, U_2, W_1, W_2	a05, b02, b04, c02, c07, d01, e04, e05, e07, f01, f03

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</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>	No
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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
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
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion	Yes

		<i>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</i>	
e01	Activities complementary to the classes	Undertaking, on one's own initiative and individually, activities aimed at expanding the scope or depth of the teaching content, also beyond the walls of the University <i>a set of activities undertaken independently and on the student's own initiative, aimed at expanding the depth and scope of knowledge and skills, their revision and repetition, retention or verification, also activities carried outside the university, e.g., in a culture promoting or educational institution, a laboratory, in the open air, etc.; also self-education</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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Vegetation diversity
Module code		1BL_23_56
Number of the ECTS credits		3
Language of instruction		
Purpose and description of the content of education		The Vegetation Diversity module enables the student to learn about: the reasons for the formation and models of vegetation organization; abiotic factors affecting their diversity; general characteristics of plant communities at the level of physiognomic, typological and syntaxonomic units; variability of vegetation layers and climatic, geographic and habitat gradients. The recommended curriculum content will enable the students to learn the basics of geobotany. The acquired knowledge and skills will contribute to understanding the state of the environment with the help of vegetation.
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	Can apply the known methods and use knowledge to describe plant formations and ecosystems.	1BL_U01	3	
		1BL_U03	3	
		1BL_U07	3	
		1BL_U09	4	
U2	Is aware of the possibility of using the knowledge of vegetation in practice.	1BL_U03	3	
		1BL_U04	2	
		1BL_U13	2	
W1	Explains the causes of formation and explains the models of vegetation organization.	1BL_W01	3	
		1BL_W02	4	
		1BL_W04	4	
		1BL_W07	3	
W2	Explains the abiotic factors of the environment affecting the diversity of vegetation.	1BL_W01	4	

		1BL_W02	3
		1BL_W04	4
		1BL_W07	1
W3	Defines, classifies and describes different types of vegetation.	1BL_W02	3
		1BL_W04	2
		1BL_W07	4
		1BL_W08	2
W4	Knows the basic concepts and terms in the field of geobotany.	1BL_W02	4
		1BL_W04	2
		1BL_W07	4
W5	Recognizes indicator species of the main syntaxonomic units.	1BL_W07	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>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b05	Problem-solving methods	Activating method – seminar / proseminar <i>a seminar method; usually an oral presentation of a previously studied/diagnosed problem delivered on a forum; it aims at provoking a discussion concerning the results of research work; a type of conference, course or training session modelled on seminar classes</i>
c07	Demonstration methods	Screen presentation <i>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</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>
e04	Practical methods	Project scheduling

		<i>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</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</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
F1	lecture	10	exam	U1, W1, W2, W3, W4	a01, a03, b01, b02, c07
F2	laboratory classes	20	course work	U1, U2, W1, W3, W4, W5	a03, b05, c07, d03, e04, f03

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 <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>	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>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>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</i>	Yes
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Zoology - Chordates
Module code		1BL_23_17
Number of the ECTS credits		4
Language of instruction		
Purpose and description of the content of education		The Zoology - Chordates module allows you to learn about the main directions of chordate evolution and the principles of their phylogenetic classification. It presents the morphological and anatomical diversity of the main taxonomic units and their adaptations. Analyzes theories of the origin of deuterostomes, especially chordates. Shows their basic habitat requirements and radiations.
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)	
1BL_K05_P	demonstrates the need to update acquired biological knowledge constantly, understands the need to communicate new developments in the field to the public and can convey this information in an understandable way	1BL_K05	4	
1BL_U011_P	can work independently and communicate with a group during teamwork	1BL_U11	5	
1BL_W04_P	has advanced knowledge and understanding of the functioning of the organism (plant and animal) as a whole and of the relationship between the organism and the environment	1BL_W04	5	
1BL_W06_P	has advanced knowledge of phylogenetic issues as well as evolutionary processes and directions	1BL_W06	4	
1BL_W07_P	has advanced knowledge of the classification of organisms, biodiversity, understands the natural phenomena and processes that shape it and the impact humans on the environment at local, regional and global scale	1BL_W07	5	

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>
	c06	Demonstration methods	Demonstration-imitation

		<i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>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</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</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
1BL_23_17_L	laboratory classes	45	course work	1BL_K05_P, 1BL_U011_P, 1BL_W04_P, 1BL_W06_P, 1BL_W07_P	c06, c07, e01, f01
1BL_23_17_W	lecture	15	exam	1BL_W04_P, 1BL_W06_P, 1BL_W07_P	a01, f01

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>		Yes
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
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary 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>		Yes
b02	Consulting the curriculum and the organization	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</i>		Yes

	of classes	<i>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>	
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>.

1.	Field of study	Biology
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
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Zoology – Protozoa and Invertebrates
Module code		1BL_23_09
Number of the ECTS credits		6
Language of instruction		
Purpose and description of the content of education		The module enables students to learn about the diversity of organisms representing the Protista and Animalia kingdoms. The principles of recognising and describing taxa are presented during lectures and seminars. An outline of the history of zoology and its importance in the systematics of biological research is presented. Basic concepts in the field of systematic zoology are defined. Morphological and anatomical features of representatives of particular types within the mentioned kingdoms are described in detail. The presented overview of types is based on phylogenetic relationships. Life cycles and biology of selected species of protozoa and invertebrates are discussed. During the classes, the main groups of protozoa and invertebrates are discussed in detail, along with their morphology and anatomy characteristics. Both microscopic preparations, museum collections and live specimens are demonstrated. The student acquires the skills of careful observation and the presentation of observed objects using schematic drawings.
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	The student can efficiently use the basic techniques of light microscopy to observe and describe the characteristics of organisms, identify common species of invertebrate animals and describe their biology, as well as their role in nature and importance and identifies species of legally protected invertebrates.	1BL_U03	1	
		1BL_U04	2	
		1BL_U05	1	
		1BL_U09	1	
		1BL_U11	1	
		1BL_W02	2	
		1BL_W04	2	
		1BL_W06	2	
		1BL_W07	3	
W01	The student defines concepts and terms used in systematic zoology, describes the morphological and anatomical features of representatives of distinct taxonomic groups within protozoa and invertebrates, demonstrates knowledge of	1BL_K01	1	

	life cycles of protozoa and invertebrates, understands phylogenetic relationships within them, compares and discusses views on the classification of their representatives and shows understanding the threats to biodiversity and the primary forms of its protection.	1BL_K05	1
		1BL_U03	1
		1BL_U04	1
		1BL_U10	2
		1BL_W02	2
		1BL_W04	2
		1BL_W06	2
		1BL_W07	3

9. Methods of conducting classes		
Code	Category	Name (description)
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b02	Problem-solving methods	Lecture-discussion <i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</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>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</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>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</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
01	discussion classes	25	exam	W01	b02, b04, c02, f01
02	laboratory classes	45	course work	U01, W01	a03, c02, 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>	Yes	
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>	Yes	
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>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</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>	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>.