

1.	Field of study	<b>Biology</b>
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2025/2026 (winter term)
4.	Level of qualifications/degree	first-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Code of the learning outcome of the programme	Learning outcomes The graduate:	Codes of the second-order PRK characteristics to which the learning outcome of the programme is related
<b>KNOWLEDGE</b>		
1BL_W01	has an advanced understanding of the relationships and interrelationships between chemical, physical and biological processes in nature	2018_P6S_WG
1BL_W02	demonstrates an advanced level of knowledge and understanding of the biological terminology relevant to the field of study and related disciplines	2018_P6S_WG
1BL_W03	has advanced knowledge of the differences between prokaryotic and eukaryotic cell structures, of the most important functional relationships both between cellular constituents and between cells, as well as knowledge of the organisation of tissues, organs and the functional relationships between them	2018_P6S_WG
1BL_W04	has advanced knowledge and understanding of the functioning of the organism (plant and animal) as a whole and of the relationship between organism and environment	2018_P6S_WG
1BL_W05	knows the mechanisms of genetic information flow, regulation of gene expression, inheritance and genetic engineering and biotechnology to ensure an advanced understanding of these issues	2018_P6S_WG
1BL_W06	has advanced knowledge of phylogenetic issues and evolutionary processes and directions	2018_P6S_WG
1BL_W07	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 scales	2018_P6S_WG, 2018_P6S_WK
1BL_W08	knows the types of experimental and field methods and lists modern laboratory, measuring and imaging techniques representing advanced knowledge in this field	2018_P6S_WG
1BL_W09	has advanced knowledge and understanding of the mathematical and statistical methods and computer tools required to interpret natural phenomena and biological processes and to analyse experimental and field data	2018_P6S_WG
1BL_W10	knows the principles concerning the creation and development of forms of individual entrepreneurship and understands the principles of research funding	2018_P6S_WK
1BL_W11	recognises and presents the principles of industrial property and copyright protection and can use patent information	2018_P6S_WK
1BL_W12	knows the principles of occupational health and safety and ergonomics	2018_P6S_WK
1BL_W13	knows and understands the organisational, ethical, economic and legal conditions related to scientific, teaching and implementation activities as well as the performance of professional activities related to the programme of study	2018_P6S_WK
1BL_W14	has an advanced knowledge of English vocabulary and grammar at the B2 level, including specialised scientific terminology in biology and related fields	2018_P6S_WG
1BL_W15	has advanced knowledge and understanding of the interrelationship of selected topics in the humanities, social sciences and biological sciences	2018_P6S_WG, 2018_P6S_WK
MOB.2023_W01	has advanced knowledge of selected scientific or scholarly theories and methods, is familiar with the issues specific to the chosen academic discipline and understands its connection with the leading discipline of the degree programme	2018_P6S_WG

MOB.2023_W02_P	understands the relationship between entrepreneurship-related issues and the leading discipline of the degree programme, exhibits an entrepreneurial mindset	2018_P6S_KO, 2018_P6S_WK
MOB.2023_W03_VP	understands the relationship between legal issues – especially those pertaining to civil rights and obligations and their implementation – and the leading discipline of the degree programme, in particular the basic concepts and provisions pertaining to the protection of industrial protection and copyright law	2018_P6S_WK
OMU.2023_W01	has advanced knowledge of selected scientific theories and methods and is familiar with the issues specific to the selected academic discipline in the context of other disciplines	2018_P6S_WG
<b>SKILLS</b>		
1BL_U01	can apply selected techniques and research tools of experimental and environmental biology	2018_P6S_UW
1BL_U02	applies advanced mathematical and statistical methods to analyse data and describe results, and can use computer software packages to the extent that they can be applied in the discipline studied and in everyday life	2018_P6S_UW
1BL_U03	can select and use available sources of information, evaluate, critically analyse and synthesise this information	2018_P6S_UK, 2018_P6S_UW
1BL_U04	can communicate using specific terminology appropriate to biological sciences and related fields	2018_P6S_UK
1BL_U05	can use its knowledge to obtain and prepare the biological material used in research	2018_P6S_UW
1BL_U06	can design and carry out experiments typical of biology under supervision, using the methods learnt	2018_P6S_UO, 2018_P6S_UW
1BL_U07	can work out a selected biological problem, under the supervision of the mentor, based on literature data and own research results	2018_P6S_UO, 2018_P6S_UW
1BL_U08	can analyse the results obtained and discuss them based on the available literature	2018_P6S_UK, 2018_P6S_UW
1BL_U09	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	2018_P6S_UK, 2018_P6S_UW
1BL_U10	when participating in a debate, seminar or discussion, one can present and evaluate different opinions and positions and discuss them	2018_P6S_UK
1BL_U11	can work independently and communicate with the group during teamwork	2018_P6S_UK, 2018_P6S_UO
1BL_U12	can plan and carry out appropriate physical, biological and chemical measurements in the field or laboratory and make appropriate observations	2018_P6S_UO, 2018_P6S_UW
1BL_U13	can determine the level of their knowledge and skills to plan and carry out self-learning in a rational manner	2018_P6S_UU
1BL_U14	can use a foreign language appropriately in line with the requirements set out for level B2 of the Common European Framework of Reference for Languages and can use a basic specialist vocabulary to enable the use of foreign language biological texts	2018_P6S_UK, 2018_P6S_UW
1BL_U15	can search for the necessary information in sources of various types in the humanities, social sciences and biological sciences and select and summarise it critically, forming a coherent picture of an interdisciplinary issue.	2018_P6S_UO, 2018_P6S_UU, 2018_P6S_UW
KJ.2023_U	clearly and comprehensibly communicates with others in a foreign language at the B2 level of the Common European Framework of Reference for Languages, making use of his/her knowledge and terminology	2018_P6S_UK
MOB.2023_U01	asks questions, analyzes research problems and finds solutions to them based on the knowledge, skills and experience he/she has gained within the chosen academic discipline in conjunction with the leading discipline of the degree programme; communicates the results of his/her work in a way which is clear and understandable not only to specialists	2018_P6S_UK, 2018_P6S_UW
OMU.2023_U01	has advanced skills in asking research questions, analyzing problems or providing practical solutions to them based on the knowledge, experience and skills gained within the chosen academic discipline in the context of other disciplines	2018_P6S_UW
<b>SOCIAL COMPETENCES</b>		

1BL_K01	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	2018_P6S_KK
1BL_K02	is ready to act in an entrepreneurial and creative manner and to recognise and respond appropriately to social and environmental problems	2018_P6S_KO, 2018_P6S_KR
1BL_K03	is ready to undertake professional activity, observe professional ethics and safety at work, and improve professional and personal competences	2018_P6S_KR
1BL_K04	critically analyse information appearing in the mass media and popular science literature	2018_P6S_KO
1BL_K05	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	2018_P6S_KK, 2018_P6S_KO
MOB.2023_K01	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	2018_P6S_KK, 2018_P6S_KO
OMU.2023_K01	acknowledges and makes use of knowledge from different disciplines and is ready to change opinion in the light of scientifically proven arguments	2018_P6S_KK

Code of the learning outcome of the programme	Learning outcomes related to becoming a qualified teacher The graduate:	Codes of the second-order PRK characteristics to which the learning outcome of the programme is related
<b>KNOWLEDGE</b>		
KN.2023_W01	knows and understands the rudiments of the philosophy of education and pedagogical axiology, the peculiarities of the main educational environments and the processes taking place in them	
KN.2023_W02	knows and understands classical and contemporary theories of human development, upbringing, learning and teaching or education as well as their application values	
KN.2023_W03	knows and understands the role of the teacher or tutor in modeling the students' attitudes and behavior	
KN.2023_W04	knows and understands standards, procedures and good practices used in pedagogical activities (pre-school education, teaching in primary and secondary schools, in technical and vocational schools, in special needs schools and in special needs and inclusive facilities, in various types of educational centres and lifelong learning centres	
KN.2023_W05	knows and understands the issue of inclusive education as well as ways of implementing the principle of inclusion	
KN.2023_W06	knows and understands the diversity of students' educational needs and the resulting school's obligations to adapt the way the education and upbringing process is organized	
KN.2023_W07	knows and understands methods of designing and conducting diagnostic activities in pedagogical practice	
KN.2023_W08	knows and understands the structure and functions of the education system – objectives, legal basis, organization and functioning of different kinds of educational and child care institutions, as well as alternative forms of education	
KN.2023_W09	knows and understands the legal basis of the education system necessary for the proper implementation of educational activities	
KN.2023_W10	knows and understands the rights of the child and the person with disabilities	
KN.2023_W11	knows and understands the principles of occupational health and safety in educational, upbringing and care institutions and the legal responsibility of the teacher in this/her respect, as well as the principles of first aid	
KN.2023_W12	knows and understands interpersonal and social communication processes, the normal course they can take as well as the ways they can be disrupted	
KN.2023_W13	knows and understands the speech apparatus, its functions and pathologies, the principles of voice emission, the visual and the vestibular systems	
KN.2023_W14	knows and understands learning content and typical learning difficulties it poses for students	
KN.2023_W15	knows and understands teaching methods and the selection of effective teaching aids, including Internet resources which support teaching a subject or conducting classes, taking into account the diverse educational needs of the students	

SKILLS		
KN.2023_U01	is able to observe pedagogical situations and events, to analyze them using pedagogical and psychological knowledge and to propose solutions to problems	
KN.2023_U02	is able to adequately select, create and adapt materials and means to the diverse needs of the students, including in the field of information and communication technology, as well as methods for independent design and effective implementation of pedagogical, didactic, educational and child care activities	
KN.2023_U03	is able to recognize the needs, abilities and talents of students and to design and conduct activities promoting the integral development of students, their activity and participation in the process of education and upbringing, and in social life	
KN.2023_U04	is able to design and implement curricula taking into account the diverse educational needs of the students	
KN.2023_U05	is able to design and implement educational-preventive programs concerning the content and educational as well as preventive activities directed at students, their parents or guardians and teachers	
KN.2023_U06	is able to create training situations motivating students to study and to work on themselves, to analyze their effectiveness and modify activities so as to achieve the desired educational effects	
KN.2023_U07	is able to undertake work with students that stimulates their interests and develops their talents, to properly select teaching content, tasks and forms of work as part of self-education, also to promote students' achievements	
KN.2023_U08	is able to develop in students creativity and the ability of independent, critical thinking	
KN.2023_U09	is able to effectively stimulate and monitor students' teamwork involving educational projects	
KN.2023_U10	is able to use the process of assessment and feedback in order to stimulate students in their work on their own development	
KN.2023_U11	is able to monitor students' progress, their activity and participation in the social life of the school	
KN.2023_U12	is able to work with children with special educational needs, including children with adaptation difficulties related to their migration experience, who come from culturally diverse backgrounds or with limited knowledge of the Polish language	
KN.2023_U13	is able to responsibly organize the students' school and extracurricular work, respecting his/her right to rest	
KN.2023_U15	is able to use the Polish language correctly; to use subject-related terminology correctly and adequately to the age of the students	
KN.2023_U16	is able to use the speech apparatus in accordance with the principles of voice emission	
KN.2023_U17	is able to provide first aid	
KN.2023_U18	is able to develop knowledge and pedagogical skills on one's own, using various sources, including sources in foreign languages, as well as technology	
SOCIAL COMPETENCES		
KN.2023_KS01	is ready to use universal principles and ethical standards in professional activity, guided by respect for every human being	
KN.2023_KS02	is ready to build a relation based on mutual trust between all participants of the upbringing and education process, including the student's parents or guardians, and involving them in activities conducive to educational effectiveness	
KN.2023_KS03	is ready to communicate with people from different backgrounds, exhibiting diverse emotional states, resolving conflicts through dialogue, creating an atmosphere conducive to communication in and outside the classroom	
KN.2023_KS04	is ready to make decisions related to the way the educational process is organized in inclusive education	
KN.2023_KS05	is ready to recognize the peculiarity of the local community and to engage in cooperation for the benefit of the students and the community	
KN.2023_KS06	is ready to design activities supporting the developing of the school or the educational institution and stimulating the improvement of the quality of work of these institutions	
KN.2023_KS07	is ready to work in a team, performing various roles in it and cooperating with teachers, tutors, specialists, students' parents or guardians as well as other members of the school and local community	

Code of the learning outcome of the programme	Learning outcomes related to qualifications entitling to teach II subject - chemistry The graduate:	Codes of the second-order PRK characteristics to which the learning outcome of the programme is related
<b>KNOWLEDGE</b>		
1KN_Ch_W01	knows concepts in chemistry and related sciences and relates this knowledge to the structure, properties and reactivity of elements and chemical compounds, as well as to the qualitative and quantitative interpretation of chemical and physicochemical processes and phenomena occurring in nature.	2018_P6S_WG
1KN_Ch_W02	has advanced knowledge of general, organic and inorganic chemistry	2018_P6S_WG, 2018_P6S_WK
1KN_Ch_W03	zna techniki eksperymentu chemicznego, metody laboratoryjne oraz sprzęt wykorzystywany w pracy laboratoryjnej	2018_P6S_WG
1KN_Ch_W04	knows the properties, methods of obtaining and analysing selected chemical compounds, and the principles of rational chemical management in accordance with health and safety regulations	2018_P6S_WG
<b>SKILLS</b>		
1KN_Ch_U01	can interpret and solve problems in chemistry and related sciences based on learned concepts and laws, critically analyse, formulate and present the results obtained	2018_P6S_UW
1KN_Ch_U02	can synthesise various types of chemical compounds and perform qualitative and quantitative analyses of simple chemical compounds	2018_P6S_UW
1KN_Ch_U03	can predict the properties of chemical compounds and interpret the mechanisms of chemical reactions	2018_P6S_UW
1KN_Ch_U04	can use information and communication tools and electronic educational resources to support the teaching of chemistry	2018_P6S_UW
1KN_Ch_U05	is able to apply mathematical and statistical methods to solve problems in the field of chemistry, assess the reliability of chemical data and present it	2018_P6S_UW
1KN_Ch_U06	is able to prepare substantively correct written works (such as reports, studies, analyses), oral presentations and teaching materials on topics related to the field of chemical sciences	2018_P6S_UK
1KN_Ch_U07	based on specialist literature and information from databases, independently learns about selected issues and determines directions for further education, and understands the need to apply an interdisciplinary approach based on critical reasoning when solving research problems	2018_P6S_UU
1KN_Ch_U08	is able to rationally plan and carry out individual and team work in a chemical laboratory in compliance with health and safety regulations, safety rules and good laboratory practice	2018_P6S_UO
<b>SOCIAL COMPETENCES</b>		
1KN_Ch_K01	understands the need for continuous learning, self-education and critically assesses their knowledge of chemistry	2018_P6S_KK, 2018_P6S_KO
1KN_Ch_K02	understands the need for an interdisciplinary approach to solving problems in the educational process and for maintaining safety and responsibility standards and rules when working in a school chemistry laboratory	2018_P6S_KK, 2018_P6S_KR
1KN_Ch_K03	understands and complies with the principles of professional ethics and intellectual property	2018_P6S_KR

Code of the learning outcome of the programme	Learning outcomes related to qualifications entitling to teach II subject - nature (for biology) The graduate:	Codes of the second-order PRK characteristics to which the learning outcome of the programme is related
<b>KNOWLEDGE</b>		
1KN_P_W01	has knowledge of the systems that make up the human body and how they function	2018_P6S_WG
1KN_P_W02	knows the components of the natural and anthropogenic environment and understands simple relationships between them	2018_P6S_WK

1KN_P_W03	uses basic scientific vocabulary in the fields of biology, chemistry and physics	2018_P6S_WG
<b>SKILLS</b>		
1KN_P_U01	uses knowledge about the structure and hygiene of the body and applies the principles of preventive healthcare	2018_P6S_UW
1KN_P_U02	can identify adaptations of organisms to their environment and ways of obtaining food	2018_P6S_UW
1KN_P_U03	recognises and interprets the relationships between components of the natural environment, as well as between components of the environment and human activity	2018_P6S_UK, 2018_P6S_UU
<b>SOCIAL COMPETENCES</b>		
1KN_P_K01	understands the importance of nature for the integral development of human beings and is able to demonstrate its value in the educational process	2018_P6S_KK, 2018_P6S_KR
1KN_P_K02	responds responsibly to threats to life and health and shows care for their own body and surroundings, promoting a healthy lifestyle	2018_P6S_KO
1KN_P_K03	critically assesses their knowledge of natural science teaching, which they constantly supplement, and is characterised by a pro-ecological attitude and the initiation of projects for the protection of nature	2018_P6S_KK, 2018_P6S_KO