

Programme: INFORMATICS
Level of studies: 1 st degree
Polish Qualifications Framework PRK level: 6
Programme profile: general academic profile
Field of science/arts: Natural sciences, Engineering and technology, Social sciences, Humanities
Discipline/Disciplines ⁱ : computer and information sciences - discipline indicated, information and communication technology, mathematics, philosophy, management and quality studies
Learning outcomes for the cycle: 2022/2023

Learning outcomes for general university courses (foreign language classes, physical education, entrepreneurship, university mission courses) are specified in the relevant resolutions of the Senate

Symbol of the programme learning outcome	Programme learning outcomes	Reference to universal first stage descriptors – PRK levels 6-8 ⁱⁱ	Reference to second stage descriptors - PRK levels 6-8 ⁱⁱⁱ	Reference to second stage descriptors - PRK levels 6 and 7 in the field of art sciences ^{iv}	Reference to second stage descriptors - PRK levels 6 and 7 for engineering qualifications ^v
	Knowledge: Graduate knows and understands	Descriptor symbol	Descriptor symbol	Descriptor symbol	Descriptor symbol
K_W01	The student understands the importance of informatics and its applications	P6U_W1	P6S_WK1		
K_W02	The student has knowledge about mathematical analysis, algebra and geometry, useful when formulating and solving simple tasks associated with the computer science	P6U_W1 P6U_W2	P6S_WG1 P6S_WK2		
K_W03	The student is familiar with the selected algorithms and examples of their practical implementation	P6U_W1	P6S_WG1		
K_W04	The student has basic knowledge of building and managing computer systems, operating systems and computer networks,	P6U_W1	P6S_WG1		
K_W05	The student knows, at a basic level, a selected software package for symbolic computations	P6U_W1	P6S_WG1		
K_W06	The student has general knowledge of theoretical computer science, algorithms designing and programming, software engineering,	P6U_W1	P6S_WG1		
K_W07	The student knows the principles of health and safety regulations when working with computers	P6U_W2	P6S_WK2		

K_W08	The student has basic knowledge of intellectual property, copyright and ethical principles of an IT engineer	P6U_W2	P6S_WK2		
K_W09	The student has knowledge discrete mathematics, probability theory and statistics useful when formulating and solving simple tasks associated with the computer science	P6U_W1 P6U_W2	P6S_WG1 P6S_WK2		
K_W10	The student has general knowledge of data bases, data processing and analysis, artificial intelligence	P6U_W1	P6S_WG1		
K_W11	The student has general knowledge of computer graphics, animation and image processing	P6U_W1	P6S_WG1		
	Skills: a graduate can	Descriptor symbol	Descriptor symbol	Descriptor symbol	Descriptor symbol
K_U01	The student can use chosen operating systems and application/ utility software	P6U_U1	P6S_UW1		
K_U02	The student can on his/her own gain and use helpful information included in technical documentation, help files, the Internet and available literature when solving particular computer science problems	P6U_U1 P6U_U2	P6S_UW1 P6S_UU1		
K_U03	The student can use, at its basic level, a selected software package that can be used for symbolic computations	P6U_U1	P6S_UW1		
K_U04	The student can utilize technical language used in computer science, is able to communicate employing various communication methods	P6U_U3	P6S_UW1 P6S_UK1		
K_U05	The student can design www websites	P6U_U1	P6S_UW1		
K_U06	The student can use basic concepts and methods of number systems, encoding, data processing and protection	P6U_U1	P6S_UW1		
K_U07	The student can analyze algorithms and programs written in an imperative language of programming from the point of view of their correctness and computational complexity. He or she can present and justify the results of the analysis	P6U_U3	P6S_UW1 P6S_UK2		
K_U08	The student can develop and record simple algorithms which solve problems from various areas of sciences	P6U_U1	P6S_UW1		
K_U09	The student can apply basic recursive, sorting and searching algorithms, and implement them in a chosen programming language and a given development environment	P6U_U1	P6S_UW1		
K_U10	The student can apply data structures, implement them and perform operations on them	P6U_U1	P6S_UW1		
K_U11	The student can apply the principles of creating of structured and object-oriented programming	P6U_U1	P6S_UW1		
K_U12	The student can write a simple application in an object-oriented programming language, in both graphical user and text interface	P6U_U1	P6S_UW1		
K_U13	The student can design software using the principles of software engineering	P6U_U1	P6S_UW1		

K_U14	The student can draw up the basic documentation during the process of an IT project realization	P6U_U1	P6S_UW1		
K_U15	The student can create simple network services and make them available to the users through various network protocols	P6U_U1	P6S_UW1		
K_U16	The student can apply basic principles of artificial intelligence	P6U_U1	P6S_UW1		
K_U17	The student can work on his/her own and in a team, understands the need of systematic work over long-term projects. The student can appropriately choose priorities within a given IT project.	P6U_U1 P6U_K2	P6S_UO1 P6S_UO2		
K_U18	The student understands the need of further training and improvement professional competences	P6U_U2	P6S_UU1		
K_U19	The student can run functional tests	P6U_U1	P6S_UW1		
K_U20	The student is able to implement selected numerical methods and selected optimization methods in practice	P6U_U1	P6S_UW1		
K_U21	The student can use logic, methods of providing proof and recursion in order to solve problems in the computer science	P6U_U1	P6S_UW1		
K_U22	The student can use acquired knowledge about mathematics to describe processes, create models, write algorithms and other activities in informatics	P6U_U1	P6S_UW1		
K_U23	The student can use English at the level which enables him/her to use software and hardware documentation	P6U_U1	P6S_UW1		
K_U24	The student can build and administer a simple computer network	P6U_U1	P6S_UW1		
K_U25	The student is able to create visual content by using standard graphic API and introduce basic transformations, implement selected procedures of visual content transformations	P6U_U1	P6S_UW1		
K_U26	The student can construct simple questions in SQL language, and prepare a relational model of databases	P6U_U1	P6S_UW1		
K_U27	The student can build a simple database system by using at least one of the common systems of database managing	P6U_U1	P6S_UW1		
K_U28	The student can draw simple statistical conclusions	P6U_U1	P6S_UW1		
K_U29	The student is able to prepare himself/herself for standard writing tests concerning the computer science	P6U_U3	P6S_UW1 P6S_UK1		
K_U30	The student can present general and detailed informatics issues in a clear, comprehensive way	P6U_U3	P6S_UK1		
	Social competence: a graduate is ready to	Descriptor symbol	Descriptor symbol	Descriptor symbol	Descriptor symbol
K_K01	Is ready to assess the level of his or her knowledge and skills. The student can conduct a critical evaluation of the received information.	P6U_K2	P6S_KK1		
K_K02	He can show initiative and efficiency while working on a project	P6U_K2 P6U_K1	P6S_KO1 P6S_KO2		

K_K03	Can identify and settle the job-related dilemmas with regard to legal and ethical principles	P6U_K1	P6S_KR1		
K_K04	He understands the social aspects of the use of acquired knowledge and the related responsibility	P6U_K1 P6U_K2	P6S_KO1 P6S_KR1		
K_K05	Is prepared undertake actions aiming at raising awareness of the significance of contemporary IT tools and the dangers of utilizing them	P6U_K1 P6U_K2	P6S_KO1 P6S_KO2		
K_K06	Is prepared to solve practical problems independently and in justified cases with an assistance of an expert	P6U_K2	P6S_KK2		

i In the case of programmes assigned to more than one discipline a leading discipline should be indicated.

ii Universal first stage descriptors for PRK levels 6-8 – Act of 22 December 2015 on the Integrated Qualifications System (Journal of Law of 2016, item 64).

iii Second stage descriptors for PRK levels 6-8 typical for qualifications awarded by higher education institutions – Regulation of MNiSW of 14 November 2018 r. - part I.

iv Second stage descriptors for PRK levels 6-8 typical for qualifications awarded by higher education institutions in the field of art sciences. – Regulation of MNiSW of 14 November 2018 r. - part II.

v Second stage descriptors for PRK levels 6-8 typical for engineering qualifications awarded by higher education institutions – Regulation of MNiSW of 14 November 2018 r. - part III.