TABLE of LEARNING OUTCOMES

Name of the field of study: INFORMATION TECHNOLOGY
level of education: second-cycle studies
POLISH QUALIFICATIONS FRAMEWORK – LEVEL 7
educational profile: practical
disciplines:
- *field: Engineering and technology – discipline: information and communication technology (100%)*

Symbol	Learning outcomes for the field of study On completing second-cycle INFORMATION TECHNOLOGY studies, the graduate:	Reference to second stage descriptors of the POLISH QUALIFICATIONS FRAMEWORK
	KNOWLEDGE	
K_W01	has broadened and deepened knowledge necessary for effective selection and application of methods and tools used in IT	P7S_WG
K_W02	has the necessary knowledge for the effective application of computer science in related fields of study	P7S_WG
K_W03	has deepened, theoretically based knowledge of computer systems engineering, the ability to create a complex computer system, specify requirements, model and design computer systems	P7S_WG
K_W04	has in-depth, structured knowledge of methods, techniques and tools used in developing IT solutions	P7S_WG
K_W05	understands the methodology of designing complex IT systems, understands the relationships between system components; knows the methods and tools for designing systems	P7S_WG
K_W06	has extended knowledge of development trends and the most important new achievements in IT and applications of IT in science and technology	P7S_WG P7S_WK
K_W07	has knowledge of the organization of individual stages of the life of an IT system project, including implementation, as well as estimating the costs of the undertaking	P7S_WG
~~K_W08~~	deleted	-
K_W09	has knowledge of the human as an entity constituting the structures of the surrounding reality and the relations binding him with those structures	P7S_WK
K_W10	has knowledge of the economic, legal and ethical effects (including knowledge of the principles of industrial property protection and copyright) affecting the profession performed, as well as understands the conditions necessary for the creation and development of various forms of entrepreneurship	P7S_WK

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SKILLS		
K_U01	can obtain information from literature and other sources, also in English; can integrate the obtained information, interpret and evaluate it, as well as draw conclusions and formulate opinions	P7S_UW
K_U02	can work individually and in a team; can assess the time required for a task; can manage a small team in a way which ensures the completion of the task within the assumed deadline	P7S_UW P7S_UO P7S_UU
K_U03	can prepare detailed documentation of the results of conducting an experiment, project or research task; can prepare a study containing a discussion of these results	P7S_UW
K_U04	can prepare and give a presentation on the implementation of a design or research task and conduct a discussion on the presentation	P7S_UW
K_U05	uses English in professional matters, can read and understand specialist literature in English, as well as prepare a short presentation on the implementation of a design, implementation or research task in English	P7S_UW
K_U06	can use the methods and tools learned, modifying them if necessary, to carry out complex tasks	P7S_UW
K_U07	can evaluate and compare design solutions and software development processes in terms of given utility and economic criteria (complexity of algorithms, speed of operation, time consumption, cost, etc.)	P7S_UW
K_U08	can plan the process of testing and implementing an IT system	P7S_UW
K_U09	can formulate a design specification for a complex program or IT system, taking into account non-technical aspects	P7S_UW
K_U10	can plan and conduct a research experiment, interpret the results and manage a discussion on them	P7S_UW
K_U11	can formulate and, using appropriate analytical, simulation or experimental tools, test hypotheses related to modelling and designing algorithms, programs and IT systems and designing the process of their production	P7S_UW
K_U12	when formulating and solving IT tasks, can integrate knowledge from various disciplines, using a systemic approach, taking into account non-technical aspects (including economic and legal ones)	P7S_UW
K_U13	can assess the usefulness and possibility of using new achievements as concerns tools, technologies, design and production methods to solve IT problems	P7S_UW
K_U14	can formulate and test hypotheses related to professional problems, including implementation problems and simple research problems	P7S_UW
K_U15	can independently plan their own development and indicate to others development prospects in the IT profession	P7S_UU
K_U16	has experience in solving practical engineering tasks, gained in an environment professionally involved in engineering activities (vocational training), applies the principles of occupational health and safety	P7S_UW P7S_UO
K_U17	can use the acquired knowledge and skills in the implementation of non-standard tasks, also in non-IT areas of application	P7S_UW

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K_U18	has an in-depth ability to prepare written works and oral presentations in a foreign language within their field of study (in accordance with the requirements specified for level B2+ of the Common European Framework of Reference for Languages)	P7S_UK
SOCIAL COMPETENCES		
K_K01	can think and act in a creative and enterprising manner	P7S_KO
K_K02	understands the need to formulate and convey to society, in particular through the mass media, information and opinions on the achievements of computer science and other aspects of the activities of an IT engineer; makes efforts to convey such information and opinions in a generally understandable way, presenting different points of view	P7S_KO
K_K03	can critically evaluate the knowledge possessed and the content received	P7S_KK
K_K04	is aware of the social role of a technical graduate, and in particular understands the need to develop the achievements of the profession, maintain the ethos of the profession and observe and develop the principles of professional ethics	P7S_KR
K_K05	is characterized by readiness and openness to understand cognitive problems and solve practical issues, seeking the opinion of experts as necessary	P7S_KK