1.	**Field of study**	**Chemical Technology**
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2025/2026 (winter term)
4.	Level of qualifications/degree	first-cycle studies (in engineering)
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
	KNOWLEDGE	
TCh_W01	has a knowledge of chemistry sufficient to describe chemical phenomena and processes	2018_P6S_WG
TCh_W02	knows higher mathematics and physics in terms of the level sufficient to describe, analyse and interpret chemical and physical phenomena	2018_P6S_WG
TCh_W03	has a knowledge of chemical technology and industrial organic and inorganic syntheses based on energy resources and energy carriers	2018_P6S_WG
TCh_W04	is aware of the risks arising from improper control of the technological process as well as the risks and safety of work in the chemical industry and the trade in chemicals	2018_P6S_WG
TCh_W05	has knowledge of the potential applications of information and communication technologies, universal design, and IT tools in engineering work	2018_P6S_WG
TCh_W06	knows different types of modern technical materials, has knowledge of the most important technological aspects related to the manufacturing and application of these materials	2018_P6S_WG
TCh_W07	has knowledge of computational methods used in chemical technology, planning and optimization of experiments, as well as knowledge of statistical and chemometric control of technological processes	2018_P6S_WG
TCh_W08	knows and understands concepts and issues related to sciences adjacent to chemistry	2018_P6S_WK
TCh_W09	possesses knowledge of the principles of green chemistry and sustainable development, also in the context of the challenges posed by a changing world	2018_P6S_WG, 2018_P6S_WK
TCh_W10	possesses knowledge of various technologies, processes, and practices used in industry that meet the criteria of Best Available Techniques (BAT)	2018_P6S_WG
TCh_W11	demonstrates knowledge concerning the responsible and sustainable development of the chemical industry, and understands the principles of reporting.	2018_P6S_WG
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_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
	SKILLS	
TCh_U01	is able to apply acquired knowledge to interpret, formulate, and solve problems and tasks, including engineering tasks. Is capable of critically analyzing results, interpreting them and drawing conclusions, as well as presenting them in the form of presentations and written reports, and discussing them in public forums using correct Polish and academic language.	2018_P6S_UK, 2018_P6S_UW

TCh_U02	knows how to use knowledge in the fields of chemistry, mathematics, physics and chemical technology and to find the right sources of information for the design and synthesis of simple chemical compounds; has the ability to independently and collaboratively plan and perform experimental studies; knows how to perform basic physical, physico-chemical and analytical measurements in conditions that are not fully predictable	2018_P6S_UO, 2018_P6S_UW
TCh_U03	understands and is able to confidently produce various types of written and oral statements relevant to the studied discipline	2018_P6S_UK
TCh_U04	is prepared for self-development within the scope of issues related to the studied discipline; independently studies selected topics, is able to retrieve information from literature and databases, and uses appropriately selected computer software	2018_P6S_UU
TCh_U05	plans and conducts experiments in accordance with the principles of green chemistry, striving for continuous improvement of skills throughout life	2018_P6S_UU, 2018_P6S_UW
TCh_U06	is able to analyze and evaluate the life cycle of chemical products	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
SOCIAL COMPETENCES		
TCh_K01	is prepared to responsibly perform professional roles, demonstrating reliability and diligence in the execution of assigned duties, while acting in accordance with ethical principles as well as professional and legal standards.	2018_P6S_KR
TCh_K02	can think and act rationally and in an entrepreneurial manner	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 leading to the acquisition of engineering competences** The graduate:	Codes of the second-order PRK characteristics to which the learning outcome of the programme is related
KNOWLEDGE		
TCh_W12	has a knowledge in the field of machinery and apparatus of the chemical industry, technical thermodynamics and chemical engineering necessary for the analysis of technological processes and the proper design of installations and systems in the chemical industry	2018_P6S_WG, 2018_inż_P6S_WG
TCh_W13	has a knowledge of selected engineering disciplines useful for engineering tasks in the field of chemical technology	2018_P6S_WG, 2018_inż_P6S_WG
TCh_W14	is familiar with the concepts and principles of industrial and intellectual property protection and patent information, with labour law, health and safety regulations and general principles for the creation and development of forms of individual entrepreneurship as well as management, understands the basic economic aspects of various types of professional activity	2018_P6S_WK, 2018_inż_P6S_WK
TCh_W15	demonstrates knowledge related to the planning of production processes and the effective organization of work, taking into account the principles of sustainable development, as well as the concepts of sustainable and green chemistry	2018_P6S_WG, 2018_inż_P6S_WG
MOB.2023_inż_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_inż_P6S_WK
SKILLS		

TCh_U07	performs basic design calculations of selected unit processes, can design and draw typical chemical industry apparatus or installations and plan a technological process, can collaborate in teamwork, and plan and organize individual work and teamwork; is able to make a preliminary economic assessment of proposed solutions and engineering actions undertaken; critically analyze the functioning of existing technical solutions and evaluate these solutions	2018_P6S_UO, 2018_P6S_UW, 2018_inż_P6S_UW
TCh_U08	can classify hazardous materials, including waste, knows the laws on their trade and recycling, and rules on the transport of chemicals, is familiar with health and safety regulations and applies basic regulations in the field of technical safety and risk determination	2018_P6S_UO, 2018_P6S_UW, 2018_inż_P6S_UW
TCh_U09	recognises and defines the relationships between technological issues, implemented in industrial practice and their impact on particular elements of the environment, and recognises their systemic and non-technical aspects	2018_P6S_UW, 2018_inż_P6S_UW
TCh_U10	utilizes selected instrumental methods and understands the physicochemical principles of measurement	2018_P6S_UW, 2018_inż_P6S_UW
SOCIAL COMPETENCES		
TCh_K03	promotes responsibly research results and selected issues related to chemical technology in the social environment, understands and adheres to the principles of professional ethics and intellectual property	2018_P6S_KO, 2018_P6S_KR, 2018_inż_P6S_WK
TCh_K04	critically assesses the scope of their own knowledge, understands the need for an interdisciplinary approach to problem-solving, the integration of knowledge from various disciplines, and the practice of self-directed learning aimed at deepening acquired knowledge necessary for solving practical and cognitive problems; is aware of and understands the non-technical aspects and consequences of engineering activities, and is willing to consult experts when encountering difficulties in solving problems independently	2018_P6S_KK, 2018_inż_P6S_WK