

Wydział Technologii i Inżynierii Chemicznej/ Faculty of Chemical Technology and Engineering

Nazwa kierunku studiów/ Programme of studies: chemical engineering

Poziom kształcenia/ Level of qualification: studia drugiego stopnia/ second cycle studies

Profil studiów/ Educational profile: ogólnoakademickim/ general academic

Dziedzina/ Fields of science: nauk inżynieryjno-technicznych/ Engineering and technology

Dyscyplina/ Discipline of science: inżynieria chemiczna/ chemical engineering (100%)

Tytuł zawodowy uzyskiwany przez absolwenta/ Name of qualification (Title conferred): magister inżynier

Opis zakładanych efektów uczenia się/

Description of the planned educational effects

Kod/ Code	Efekty uczenia się programu studiów/ Learning outcome for programme of studies	Odniesienie do efektów uczenia się dla kwalifikacji na poziomie 6, 7 lub 8 PRK	Odniesienie do efektów uczenia się prowadzących do uzyskania kompetencji inżynierskich
Wiedza/ Knowledge			
ChEn_2A_W01	Graduate has in-depth knowledge in the field of chemical processes, including appropriate selection of materials, raw materials, methods, techniques, equipment and devices for the implementation of chemical and biochemical processes and characterization of the raw materials and products obtained.	P7S_WG	P7S_WG
ChEn_2A_W02	Graduate has extended and deep knowledge necessary for planning, designing and scaling-up of technological industrial processes as well as planning experiments and elaborating the results of experimental research.	P7S_WG	

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ChEn_2A_W03	Graduate has deep theoretical background related to catalysis and alternative and enhanced techniques in chemical and biochemical processes as well as instrumental analytical methods applied in chemical engineering.	P7S_WG	
ChEn_2A_W04	Graduate has broadened and deep knowledge about the modern and green chemical and material technologies, including advanced materials and nanomaterials technologies as well as current trends in the development of chemical industrial processes.	P7S_WG	
ChEn_2A_W05	Graduate has expanded knowledge in the field of environmental protection and sustainable chemical engineering, including environmental risks and dilemmas related to the implementation of industrial chemical processes as well as knows the rules of occupational health and safety.	P7S_WG P7S_WK	P7S_WG
ChEn_2A_W06	Graduate has extensive knowledge of entrepreneurship, management, including quality management.	P7S_WG P7S_WK	P7S_WK
ChEn_2A_W07	Graduate has established knowledge of legal and ethical conditions of professional activities related to chemical engineering, including the principles of industrial property and copyright protection.	P7S_WK	
Umiejętności/ Skills			
ChEn_2A_U01	Graduate is able to utilize the in-depth knowledge in the field of chemical processes, including appropriate selection of materials, raw materials, methods, techniques, equipment and devices for the implementation of chemical and biochemical processes and characterization of the raw materials and products obtained.	P7S_UW	P7S_UW

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ChEn_2A_U02	Graduate is able to use the extended and deep knowledge necessary for planning, designing and scaling-up of technological industrial processes as well as planning experiments and elaborating the results of experimental research.	P7S_UW	
ChEn_2A_U03	Graduate is able to use broadened and deep knowledge about the modern and green chemical and material technologies as well as current trends in the development of chemical industrial processes.	P7S_UW	P7S_UW
ChEn_2A_U04	Graduate is able to use expanded knowledge in the field of environmental protection and sustainable chemical engineering, including assessment of environmental risks related to the implementation of industrial chemical processes.	P7S_UW	
ChEn_2A_U05	Graduate is able to make and verify hypotheses related to simple research problems.	P7S_UW	
ChEn_2A_U06	Graduate is able to analyse and solve complex problems related to chemical technology and process engineering on the basis of specialist knowledge, bibliographic resources, databases and other sources.	P7S_UW	P7S_UW
ChEn_2A_U07	Graduate has the ability to acquire and critically evaluate information from bibliographic resources, databases and other sources and to use them in a creative way to interpret and present selected information, opinions and reports.	P7S_UW	
ChEn_2A_U08	Graduate is able to apply the principles of occupational health and safety in the laboratory.	P7S_UW	
ChEn_2A_U09	Graduate is able to communicate with specialists and non-specialists using specialized terminology in the field of chemical engineering as well as to conduct a scientific discussion - to present and evaluate various opinions and positions.	P7S_UK	

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ChEn_2A_U10	Graduate is able to communicate in foreign language (English) at B2+ level of Common European Framework of Reference for Languages (CEFR), also in the field of specialized terminology related to chemical engineering.	P7S_UK	
ChEn_2A_U11	Graduate is able to plan his own work and organize team work, including cooperation with other people, taking a leading role in teams or managing the work of the team.	P7S_UO	
ChEn_2A_U12	Graduate is able to independently plan and implement his own lifelong learning and to guide others in this area.	P7S_UU	
Kompetencje społeczne/ Social competences			
ChEn_2A_K01	Graduate is ready to critical assessment of own knowledge and received information and understands the need for lifelong learning and professional development.	P7S_KK	
ChEn_2A_K02	Graduate is aware of the importance of knowledge in solving of cognitive and practical problems and is ready to consult experts in the case of difficult problems.	P7S_KK	
ChEn_2A_K03	Graduate is ready to think and act in an entrepreneurial manner as well as to fulfil social obligations, inspire and organise activities for the social community and initiate actions serving the public interest, including care of the natural environment.	P7S_KO	
ChEn_2A_K04	Graduate is ready to responsibly perform professional functions, taking into account changing social needs, promote and develop the principles of professional ethics, a culture of quality and cooperation.	P7S_KR	