

Subject card

Subject name and code	Engineering workshop I, PG_00080737						
Field of study	Chemical Business						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2028/2029		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		3.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Joanna Makowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		5.0		40.0	75
Subject objectives	Acquisition of the ability to properly perform research in the selected specialty and/or the subject of the diploma project.						
	Familiarization with the basic aspects of the construction and operation of the research equipment used.						
	Familiarizing students with the basic calculation methods in the field of the selected specialty and/or the subject of the diploma project.						
	Acquisition of the ability to critically interpret the results obtained.						
	Developing the ability to properly prepare and execute a diploma project.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BCHINŻ_K05] Is convinced of the importance of behaving in a professional manner in every situation, taking full responsibility in the field of engineering activities and their impact on the natural environment and compliance with the principles of professional ethics.	- Student adheres to the norms and standards applicable in the field, respects other people, cares about reputation and maintains honesty and loyalty. - Student, as a future engineer, is responsible for the effects of his actions, including: taking into account the safety, quality and impact of his activities on the natural environment. - Student adheres to the principles of professional ethics: avoids conflicts of interest and respects the rights of other people.	[SK1] oral statement/conversation/discussion
	[BCHINŻ_K03] Independently sets or implements a set action plan specifying priorities for its implementation; critically assesses its progress.	identifies the level of his knowledge and skills and understands the need for further education correctly identifies and resolves dilemmas related to the profession shows creativity in independent action. is able to work in a team performing various roles in it takes actions taking into account the priorities to achieve the intended goals, demonstrates responsibility for the safety of own and other people's work and the workplace, applies the rules of conduct in emergencies.	[SK5] implementation of a problem task
	[BCHINŻ_W11] Enumerates legal and ethical aspects related to scientific, research and didactic work.	Knows and presents issues related to the selected subject of the engineering thesis. Knows and understands the basic aspects of the construction and operation of the research equipment used. Knows, lists and describes the basic legal, economic and ethical aspects related to the implementation of engineering work. Knows and explains the basic concepts and principles in the field of intellectual and industrial property protection, copyright and patent law required to carry out engineering work.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion
	[BCHINŻ_K01] Identifies the level of her/his own knowledge and skills as well as the need to update engineering knowledge, continuous professional training and personal development.	- The student identifies the level of their knowledge and skills and understands the need for further education - The student appreciates the importance of the acquired knowledge and skills for achieving sustainable development in all its aspects - the student correctly identifies and resolves dilemmas related to the profession - the student shows creativity in independent action, can work in a team, performing various roles in it, takes action taking into account the priorities for implementation objectives - Student understands the need to independently search for information in the scientific literature; can formulate appropriate questions	[SK2] presentation/project/paper/report

	Course outcome	Subject outcome	Method of verification
	[BCHINŻ_W04] Describes the role of experiment and computer simulation in the design process of engineering issues.	- Student knows and presents issues related to the selected subject of the engineering thesis. Knows and understands the basic aspects of the construction and principles of operation of the applied research equipment, both laboratory and computer	[SW2] presentation/project/paper/report
	[BCHINŻ_U06] Proposes and makes simple devices, operations or unit processes related to the implementation of the technological process used in the chemical industry, taking into account material and energy balances.	- Student proposes a project and knows how to perform a simple device, operation or unit process in the chemical industry. - Student is able to plan the material and energy balance while maintaining the material and energy balance.	[SU2] presentation/project/paper/report [SU5] implementation of a problem task
	[BCHINŻ_U07] Performs a preliminary economic analysis of designed and implemented engineering tasks.	- Student identifies potential risks related to the project and estimates their impact on financial results. - Student takes into account the duration of the project and the time value of money. - Student can determine whether the investment in the project is profitable in the long run.	[SU5] implementation of a problem task
	[BCHINŻ_U04] In the course of carrying out engineering tasks, s/ he uses basic statistical methods, IT techniques and uses application software packages to describe chemical processes and experimental data.	The student is able to properly perform research in the selected subject of the engineering thesis. The student is able to operate the research equipment used for the project. The student is able to use the basic computational methods in the selected subject of the engineering thesis. The student has the ability to critically interpret the results obtained. The student is able to properly prepare and execute an engineering project.	[SU2] presentation/project/paper/report
Subject contents	The curriculum content is varied and adapted to the scope of the selected specialty and/or the subject of the diploma (engineering) project.		
Prerequisites and co-requisites	Knowledge of basic issues in the field of chemistry and/or related scientific fields		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Preparation of presentations and reports on the research topic	100.0%	100.0%
Recommended reading	Basic literature	A. Literature required for the final completion of the course (passing the exam): A.1. used during classes Books and scientific articles related to the selected specialty and/or the subject of the diploma project A.2. studied by the student alone Books and scientific articles related to the selected specialty and/or the subject of the diploma project	

	Supplementary literature	B. Supplementary Literature
		Books and scientific articles related to the selected specialty and/or the subject of the diploma project
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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