

Subject card

Subject name and code	Production – the process, quality control and assurance, PG_00080743						
Field of study	Chemical Business						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2026/2027		
Education level	Bachelor's studies	Subject group			Obligatory subject group in the field of study		
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			1.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Division of Didactics and Popular Science -> Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Marek Kwiatkowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15		2.0		8.0	25
Subject objectives	To get students familiar with the distinctive aspects of production, quality control and quality assurance in chemical industry.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BCHINŻ_W06] Enumerates basic unit processes and describes issues in the field of technology and chemical engineering.	Student identifies unit operations and describes how their specifics affect the production, quality control and quality assurance.	[SW4] test/exam - oral or written
	[BCHINŻ_W03] Describes the techniques of higher mathematics and IT tools necessary to describe and model chemical phenomena and technological processes.	Student describes technical and organizational solutions used in production, quality control and quality assurance in chemical industry; refers how chemical production affects natural environment, discusses methods for reducing risks involved with chemical production; describes how innovations are implemented in chemical industry.	[SW4] test/exam - oral or written
	[BCHINŻ_U08] Uses the chemical nomenclature and engineering terminology properly.	Student uses appropriate terminology when describing topics related to the course.	[SU4] test/exam - oral or written
	[BCHINŻ_U01] On the basis of the acquired knowledge, identifies, analyses and solves engineering tasks and problems in broadly understood chemistry.	Student solves specific problems related to the organization of production process in chemical industry.	[SU4] test/exam - oral or written
	[BCHINŻ_U05] Evaluates the usefulness and functioning of existing engineering and technical solutions as well as research and measurement methods in the chemical industry.	Student solves specific problems related to the organization of production process in chemical industry.	[SU4] test/exam - oral or written
	[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 prepares by herself to the final test using the content of the course and literature.	[SK4] test/exam - oral or written
Subject contents	Structure, distinctive aspects and economy of chemical production. Organization of the production process from purchasing of raw materials to releasing final product for sale. Importance of B&R for chemical production, implementation of new products. Impact of chemical industry on the environment, risks associated with the chemical production. Quality control, systems and tools for quality management in chemical industry. Quality of packaging for construction materials.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final test (multiple choice)	51.0%	100.0%
Recommended reading	Basic literature	Lichniak I. (red.), Nauka o przedsiębiorstwie, Oficyna Wydawnicza SGH, Warszawa 2009. Schmidt-Szałowski K., Sentek J. "Podstawy technologii chemicznej. Organizacja procesów produkcyjnych", Oficyna Wydawnicza PW, Warszawa 2001. Synoradzki L., Wisiański J. "Projektowanie procesów technologicznych. Od laboratorium do instalacji przemysłowej", Oficyna Wydawnicza PW, Warszawa 2006.	
	Supplementary literature	Gornowicz M., Romaniuk K., Szczubelek G., "Ekonomika produkcji", EXPOL, Olsztyn 2014, http://www.uwm.edu.pl/pro-edu/upload/file/podreczniki/Zad.2/Ekonomika%20produkcji.pdf J. Szarawara, J. Piotrowski, Podstawy teoretyczne technologii chemicznej, WNT, Warszawa 201	
	eResources addresses	Supplementary http://www.uwm.edu.pl/pro-edu/upload/file/podreczniki/Zad.2/Ekonomika%20produkcji.pdf - Production economy	

Example issues/ example questions/ tasks being completed	Economies of scale are particularly important in manufacturing: a. bulk chemicals b. products for medicine and agriculture c. specialty chemicals d. consumer products
Work placement	Not applicable

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