GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Laboratory of inorganic technologies, PG_00060874		
Field of study	Laboratorium technologii nieorganicznych		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-cycle 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	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Process Engineering and Chemical Technology -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Marek Lieder	
	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

eNauczanie source address: https://enauczanie.pg.edu.pl/2025/course/view.php?id=1102

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	2.0	18.0	50

Subject objectives

Students broaden their knowledge of selected inorganic technologies through their own research

in the laboratory and contact with industrial installations.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U03] Uses chemical knowledge to design compounds, perform physicochemical and analytical measurements, and obtain appropriate sources of information.	Performs physicochemical and analytical measurements in accordance with applicable laboratory procedures. Analyses and interprets measurement results, formulating conclusions in accordance with the principles of chemical methodology. Compiles measurement results, calculates errors and presents results in tabular or graphical form.	[SU1] Ocena realizacji zadania [SU4] Ocena umiejętności korzystania z metod i narzędzi
[K6_W05] Has knowledge of electrical engineering, automation and computer science, including the operation of measurement and control systems	Knows the principles of operation of sensors, transducers and data acquisition systems used in the measurement of physicochemical quantities. Has knowledge of the use of IT tools for monitoring, visualising and analysing process data.	[SW1] Ocena wiedzy faktograficznej
[K6_K02] is aware of the responsibility for his/her work and is ready to work in a team and share responsibility for common tasks.	Complies with the rules of cooperation and safety in the laboratory team. Responsibly carries out assigned experimental tasks, ensuring reliability and safety at work. Cooperates with other members of the group in analysing results and preparing a joint report.	[SK1] Ocena umiejętności pracy w grupie [SK4] Ocena umiejętności komunikacji, w tym poprawności językowej [SK5] Ocena umiejętności rozwiązywania problemów występujących w praktyce

Subject contents	Course content – laboratory Inorganic technology in practice: combustion, exhaust gas purification and water management at the Gdańsk combined heat and power plant field classes Obtaining superphosphate, Carbon monoxide capture (IV), Hydrogen production by alkaline water electrolysis Inorganic chemistry processes in industrial technology field classes at the Malbork Sugar Factory Inorganic technology in the paper industry field laboratory classes at Mondi Świecie Sp. z o.o. Obtaining sodium chlorate (I)
Prerequisites and co-requisites	Inorganic technology, lecture. Passed exam in technology: soda, sulphuric acid, phosphoric acid and artificial fertilisers, nitrogen compounds (ammonia, nitric acid, urea, ammonium nitrate), fuel combustion, water treatment, chlorine production.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Knowledge tests	60.0%	50.0%
Lab reports	0.0%	50.0%

Recommended reading

Basic literature	1. Schmidt-Szawłowski, K; Szafran, M.; Bobryk, E.; Sentek, J: Technologia Chemiczna. Przemysł Nieorganiczny, PWN, Warszawa, 2013. 2. Bretsznajder S., Podstawy ogólne technologii chemicznej, WNT, Warszawa, 1973 3. Kępiński J., Technologia chemiczna nieorganiczna, PWN, Warszawa, 1984. 4. Bortel E., Koneczny H , Zarys technologii chemicznej, PWN, Warszawa, 1992.
Supplementary literature	Praca zbiorowa, Soda i produkty towarzyszące, WNT, Warszawa, 1978. Dylewski R., Gnot W., Gonet M., Elektrochemia przemysłowa, Wydawnictwo Politechniki Śląskiej, Gliwice, 1999. Głowiński J. (Red.), Przykłady i zadania do przedmiotu Podstawy Technologii Chemicznej, Wydawnictwo Politechniki Wrocławskiej, Wrocław, 1991.
eResources addresses	

Example issues/ example questions/ tasks being completed	1. Draw a schematic diagram of the process of obtaining NPK fertiliser. 2. Describe the advantages and disadvantages of obtaining hydrogen by electrolysis. 3. Present the most important chemical and technological challenges in the production of chlorate(I).
Practical activites within the subject	Not applicable

Document generated electronically. Does not require a seal or signature.