University of Gdańsk

Subject card

Subject name and code	Copy Water treatment- field exercises, PG_00091483		
Field of study	Water Management and Protection of Water Resources		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study Subject group related to practical vocational preparation
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish Polish
Semester of study	3	ECTS credits	1.0
Learning profile	practical	Assessment form	
Conducting unit	Laboratory of Biochemical Analytics and Nanodiagnostics -> Department of Environmental Technology -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Natalia Gruba	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	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	5.0	10.0	30

Subject objectives	To familiarize the student with all the basic water purification processes.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GWOZWL3-U01] make basic observations of processes and phenomena occurring in the hydrosphere and carry out basic measurements of selected processes of water purification on a laboratory scale	The student is able to perform basic observations and measurements of selected water purification processes on a laboratory scale.	[SU6] demonstration of practical skills [SU8] observation of student's independent or team work
[GWOZWL3-U02] select and independently apply basic research techniques and tools, with adhering to established analytical procedures in the field of environmental research in water management, adequately to the considered research problem	The student is able to select and independently apply basic water analysis techniques, in accordance with established procedures, appropriate to the research problem being considered.	[SU6] demonstration of practical skills [SU8] observation of student's independent or team work
[GWOZWL3-K05] take responsibility for the safety of their own work and that of others, dealing with emergencies, exercising caution in the laboratory and in the field, responsibility for entrusted equipment and apparatus	The student is ready to apply occupational health and safety regulations while conducting field work.	[SK8] observation of student's independent or team work
[GWOZWL3-U07] use literature and other available sources of information, including information technology, multimedia, Internet, databases, and select and critically evaluate information	The student is able to use available literature resources to obtain information on basic water treatment and purification processes and wastewater treatment.	[SU3] text preparation/written work

Subject contents

To familiarize students with seasonal changes in the quality and quantity of water resources.

Prerequisites and co-requisites

None

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Report from the classes	51.0%	20.0%
Student's own work	51.0%	80.0%

Recommended reading

Basic literature	Kowal A.L., Świderska Bróż M., 2000, Water purification, PWN Scientific Publishing House, Warsaw Wrocław Surgiel P., Kurbiel J., Laboratory exercises in water purification, Kielce University of Technology, Kielce, 2001 Malina G., Szczepański A., Elimination of pollution with petroleum derivatives in the water and ground environment, Environmental Monitoring Library, Warsaw, 1994 Dojlido J.R., Surface water chemistry, Ekonomia i Środowisko Publishing House, Białystok, 1995 Guidelines for the quality of drinking water. Fourth edition. Polish Waterworks Chamber of Commerce, Bydgoszcz 2014 (English translation of the WHO Guidelines from 2011).
Supplementary literature	Niemirycz E., 2008, Halogenated organic compounds in the environment in relation to climate change, Environmental Monitoring Library, MŚ, Warsaw Żurek J., Bagiński Z., eds., Environmental Protection Law of the European Community, volume 7: Water. MOŚZNiL, Warsaw, 1996
eResources addresses	

Example issues/ example questions/ tasks being completed

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Work placement	Not applicable

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