University of Gdańsk

Subject card

Subject name and code	Water Treatment - laboratory classes, PG_00201428						
Field of study	Water Management and Protection of Water Resources						
Date of commencement of studies	October 2027		Academic year of realisation of subject	2028/2029			
Education level	Bachelor's studies		Subject group	Obligatory subject group 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			
Semester of study	3		ECTS credits	2.0			
Learning profile	practical		Assessment form	credit			
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	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		1.0	19.0	50	
Subject objectives	To familiarize the student with all the basic water purification processes.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GWOZWL3-K05] take responsibility for the safety of his 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 laboratory work.	[SK8] observation of student's independent or team work
[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-W10] the system of organization of the work at the place where it is taking place and the tasks in the field of water management that are the subject of the plant's activities.	The student knows the system of organization of the work at the place where it is taking place and the tasks in the field of water management that are the subject of the plant's activities.	[SW1] oral statement/ conversation/discussion
[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.	[SU8] observation of student's independent or team work

Subject contents

Basic activities in laboratory work. Exercises simulating sample technological processes used to purify water and post-industrial waste.

Prerequisites and co-requisites

None

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Student's own work	51.0%	20.0%
Test	51.0%	60.0%
Research raport	51.0%	20.0%

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
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Example issues/ example questions/ tasks being completed	-
Work placement	Not applicable

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