University of Gdańsk

Subject card

Subject name and code	Water Monitoring, PG_00091473		
Field of study	Water Management and Protection of Water Resources		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2026/2027
Education level	undergraduate studies	Subject group	Obligatory subject group in the field of study Optional subject group 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	3	Language of instruction	English
Semester of study	6	ECTS credits	2.0
Learning profile	practical	Assessment form	
Conducting unit	Centrum Monitoringu i Ochrony Wód -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Julita Dunalska	
	Teachers		

Lesson types							
	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	0.0	0.0	0.0	20
	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	20	5.0	25.0	50

Subject objectives	Introduction to basic methods of water monitoring in Poland and worldwide. The course includes auditorium and field classes. Classes conducted in block form at the Center for Water Monitoring and Protection in Borucino.

<table>
<tr><td>Learning outcomes</td><td>
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<tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr>
<tr><td>[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</td><td>Is able to select and independently apply basic research techniques and tools, in compliance with established analytical procedures, in the field of aquatic environment study.</td><td>[SU2] presentation/project/paper/ report</td></tr>
<tr><td>[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</td><td>Student is responsible for the safety of his own and others' work, conduct in states of danger, exercise caution in the laboratory and in the field, responsibility for the entrusted equipment and apparatus.</td><td>[SK6] demonstration of practical skills</td></tr>
<tr><td>[GWOZWL3-U13] read with understanding specialized scientific texts in Polish and English</td><td>Student reads with understanding specialized scientific texts and formulates opinions on water quality in English.</td><td>[SU1] oral statement/conversation/ discussion</td></tr>
<tr><td>[GWOZWL3-W03] organization and legal basis of
environment protection, nature protection and
water management, as well as the principles of
organization and operation of hydrological and meteorological services and the basics of Integrated Environmental Monitoring</td><td>Student knows the organization and legal basis for the protection of the aquatic environment, as well as the principles of organization and functioning of the monitoring in Poland (PMŚ). He has well-established knowledge in the field of measurement and interpretation of monitoring data.</td><td>[SW1] oral statement/ conversation/discussion</td></tr>
<tr><td>[GWOZWL3-W08] basic concepts and problems in the field of study in English</td><td>Knows the indicators of pollution of the aquatic environment. Knows basic concepts and explains issues in English.</td><td>[SW1] oral statement/ conversation/discussion
[SW2] presentation/project/paper/ report</td></tr>
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<tr><td>Subject contents</td><td>Getting to know the specifics of field work and the laboratory of environmental research, the principles of creating monitoring in Poland (PMŚ) and the flow of information at the national and international level; getting acquainted with the role of volunteers in water monitoring as part of citizen science; performing measurements to assess the condition of environmental components using modern equipment and measurement devices and high frequency data; interpretation of the obtained results of monitoring tests and cause-and-effect analysis.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Knowledge of English</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td></td><td>51.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
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<tr><td>Basic literature</td><td>- water Directive</td></tr>
<tr><td>Supplementary literature</td><td>- Marcé R et al. 2016. Automatic High Frequency Monitoring for Improved Lake and Reservoir Management. Environmental Science&Technology, 50(20): 10780-10794.</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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