University of Gdańsk

Subject card

Subject name and code	Recultivation and Renaturalization of Water - laboratory classes, PG_00201456		
Field of study	Water Management and Protection of Water Resources		
Date of commencement of studies	October 2027	Academic year of realisation of subject	2029/2030
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	3	Language of instruction	Polish
Semester of study	6	ECTS credits	1.0
Learning profile	practical	Assessment form	credit
Conducting unit	Centrum Monitoringu i Ochrony Wód -> Faculty of Oceanography and Geography -> Rector		
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	0.0	0.0	15.0	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	1.0	9.0	25

Subject objectives

Acquiring the ability to select appropriate restoration and rehabilitation techniques to suit individual morphometric and catchment characteristics of water bodies.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GWOZWL3-W05] assumptions of the ecosystem approach to management of the environment and human activities in the environment as well as the development directions in the field of applied solutions and scientific research for the protection and restoration of water resources in selected divisions of the national economy.	Is familiar with developments in methods to protect and restore water resources.	[SW2] presentation/project/paper/ report [SW5] implementation of a problem task
[GWOZWL3-K06] an informed and reliable assessment of the impact of humans on the aquatic environment.	In planning activities, demonstrates an attitude of informed and reliable assessment of the impact of human activities on the aquatic environment.	[SK1] oral statement/conversation/ discussion
[GWOZWL3-U03] observe and describe the changes taking place in water management and predict further directions of its development as well as conduct a critical analysis of case studies of problems of water management and protection of water resources in terms of impact on ecological, social and economic systems; natural valorization and assessment of quality of the environment.	Student acquires the ability to observe and describe changes occurring in water management and predicts further directions of its development. He/she is able to carry out a critical analysis of the environmental data obtained and, on the basis of this data, plan restoration and technical renaturalization methods adapting them to the individual characteristics of the water body in order to protect water resources.	[SU2] presentation/project/paper/ report

<table>
<tr><td>Subject contents</td><td>- Concept of modern water restoration according to Nature-Based Solutions and Circular Economy.- Basic principles for the design of restoration and renaturalization measures - implementation steps, risks.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></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>project presentation</td><td>51.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>- Dunalska J.A. 2019. Rekultywacja jezior teoria i praktyka. Wyd. PAN, Warszawa.

- Kajak Z. 2001. Hydrobiologia limnologia. Ekosystemy wód śródlądowych. Wyd. PWN

- Biedroń I., Brzuska P., Dondajewska-Pielka R., Furdyna A., Gołdyn R., Grygoruk M., Grześkowiak A., Horska-Schwarz S., Jusik S., Kłósek K., Krzymiński W., Ligęza J., Łapuszek M., Okrasiński K., Pawlaczyk P., Przesmycki M., Popek Z., Szałkiewicza E., Suska K., Żak J. 2020. Renaturyzacja wód. Podręcznik dobrych praktyk renaturyzacji wód powierzchniowych. Kraków. PDF.

- Klapper H. 2003. Technologies for lake restoration. J. Limnol., 62(1): 73-90.</td></tr>
<tr><td>Supplementary literature</td><td>- Dunalska J. 2014. Zagrożenia związane z rekultywacją jezior. Mat. Konf. Problemy rekultywacji jezior ze szczególnym uwzględnieniem Jeziora Suskiego, 15-16 maja, Bałoszyce.</td></tr>
<tr><td>eResources addresses</td><td></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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