University of Gdańsk

Subject card

Subject name and code	Meteorological and hydrological forecasting and warning, PG_00091528		
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 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	4	ECTS credits	1.0
Learning profile	practical	Assessment form	credit
Conducting unit	Department of Hydrology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Paweł Przygrodzki	
	Teachers	dr Paweł Przygrodzki	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	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

Learn the main methods of forecasting and warning of meteorological and hydrological phenomena

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GWOZWL3-K03] systematic further education and professional development, updating and expand their knowledge and skills, understands the limitations of his own knowledge in the context of civilization progress and recognizes authorities in the professional and scientific environment	K_K03 He is ready for systematic further education and professional development, updating and expanding his knowledge and skills in the field of hydrological and meteorological forecasting and warning, understands the limitations of his own knowledge in this field in the context of the progress of civilization, and recognizes the authorities in the professional and scientific environment h	[SK5] implementation of a problem task
[GWOZWL3-U04] distinguish between objectives, analyze and evaluate modern strategies for managing environment especially in the context of ecosystem approach to managing human activities in the environment with taking into account relevant law regulations and the indication of administrative bodies responsible for the management of waters and the protection of water resources	K_U04 Be able to distinguish the objectives, analyze and evaluate modern methods of forecasting and warning of meteorological and hydrological phenomena, taking into account the relevant legislation and the indication of administrative bodies responsible for forecasting and warning	[SU5] implementation of a problem task
[GWOZWL3-U07] use literature and other available sources of information, including information technology, multimedia, Internet, databases, and select and critically evaluate information	K_U07 Able to use available sources of information, including information technology, multimedia, Internet resources, databases, and to select and critically evaluate information on various aspects of hydrometeorological forecasts	[SU5] implementation of a problem task
[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	K_W03 Knows and understands the legal basis for the development and distribution, as well as the way of organization and regulation governing the forecasting and warning system.	[SW4] test/exam - oral or written

Subject contents

1. Legal basis for the preparation and dissemination of forecasts, warnings, and other products within the framework of national meteorological and hydrological support
2. Implementation of meteorological and hydrological forecasts and warnings in anticipation of extreme events
3. Organization and regulations governing the forecasting and warning system
4. Conducting meteorological and hydrological measurements and observations
5. Meteorological and hydrological modeling
6. Meteorological and hydrological forecasting
7. Procedures for preparing meteorological and hydrological warnings
8. Visualization and dissemination of meteorological and hydrological forecasts and warnings
9. Other products of national meteorological and hydrological support
10. Characteristic of the work performed by meteorological and hydrological forecasters
11. National and EU documents regarding protection against extreme phenomena

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
evaluation of project work	51.0%	100.0%

Recommended reading	Basic literature	Water Law Act of 20 July 2017 – Journal of Laws 2017, item 1566, as amended Regulation of the Minister of Infrastructure of 24 October 2023 concerning warnings, forecasts, announcements, bulletins, and yearbooks of the State Hydrological-Meteorological Service and the State Geological Service (Journal of Laws 2023, item 2430) WMO, 2006: Technical Regulation, Volume III, Hydrology. WMO-No. 49, (with subsequent amendments) with all annexes to Technical Regulation WMO, 2009: Guide to hydrological practices, Volume II, Management of Water Resources and apllication of hydrological practices. WMO-No. 168 WMO, 2021: Vision and strategy for Hydrology and its associated Plan of Action. Cg-Ext (2021)/Doc. 3.1;
	Supplementary literature	WMO, 2018, Guide to Meteorological Instruments and Methods of Observation, WMO No. 8, Genewa. WMO, 2008 (aktualizacja 2020), Guide to Hydrological Practices, Volume I: Hydrology - From Measurement to Hydrological Information& Volume II Management of Water Resources and Application of Hydrological Practices, WMO No. 168, Genewa. WMO, 2019, Manual on the Global Data-Processing and Forecasting System, WMO No. 485, Genewa. WMO, 2012, Manual on Marine Meteorological Services Volume I - Global Aspects & Volume II - Regional Aspects, WMO No. 558, Genewa WMO, 2018, Guide to Marine Meteorological Services, WMO No. 471, Genewa. WMO, 2003, Meteorological systems for hydrological purposes, WMO No. 813, Genewa.
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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