University of Gdańsk

Subject card

Subject name and code	Meteorology - laboratory classes , PG_00198804						
Field of study	Marine Hydrography						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
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	Climate Research Laboratory -> Department of Physical Oceanography and Climate Research -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Janusz Filipiak				
	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		2.0		28.0	60
Subject objectives	Getting acquainted with the basic processes in the ocean-atmosphere system for analyzing the weather situation						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[HML3-U14] is able to use the applicable terminology in presenting and discussing problems related to the field of study	is able to use current scientific terminology in presenting and discussing problems in meteorology	[SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
[HML3-U08] is able to independently use the professional literature available in traditional and electronic form, make an assessment, critical analysis and synthesis as well as the correct interpretation of the information obtained	is able to independently use professional literature on meteorology, available in both print and electronic formats, as well as databases and the Internet; is able to synthesize, evaluate, and correctly interpret the information obtained, and draw conclusions based on it	[SU2] presentation/project/paper/ report
[HML3-K01] is ready to correctly identify and resolve professional dilemmas, especially in the aspects of security and entrusted property	is ready to complete tasks on time, whether working individually or as part of a team	[SK8] observation of student's independent or team work
[HML3-W04] knows and understands, at an advanced level, the issue of measurements related to the exploration of sea basins and inland waters and tools allowing to describe, interpret and present the results of measurements	knows and understands, at an advanced level, the research methods, techniques, and tools used in atmospheric physics research	[SW2] presentation/project/paper/ report
[HML3-W02] knows and understands, at an advanced level, selected phenomena and processes occurring in the hydrosphere, atmosphere, lithosphere and biosphere, their interconnections and relations, as well as practical applications of this knowledge in professional activities related to the field of study	knows and understands the practical applications of knowledge regarding atmospheric phenomena and processes and their interrelationships	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report

Subject contents

Stratification curve. Thermodynamic diagram. Distribution of atmospheric pressure on the globe. General circulation of the atmosphere, geostrophy condition, local winds. Determination of advective wind parameters by the method of geostrophy, geostrophic ruler, reduction factors on weather maps. Process of cyclogenesis and frontogenesis, basics of synoptic analysis, isobaric and isalobaric analysis. Intertropical convergence zone, weather conditions, monsoons, stripes. Tropical cyclones, classification, stages of development, storming methodology in CT. Tropical cyclone evasion maneuver.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
written assessment	51.0%	50.0%
staged work	51.0%	50.0%

Recommended reading

Basic literature	HERMAN A.: Fundamentals of meteorology. Script for exercises in the course "Marine Meteorology". University of Gdansk Publishing House, 2006.HOLEC M., TYMAŃSKI P.: Fundamentals of meteorology and meteorological navigation. 1973.KOŻUCHOWSKI K. (ed.): Meteorology and climatology. Wydawnictwo Naukowe PWN, 2007.WIŚNIEWSKI B.: Problems of selection of the sea route. 1992.
Supplementary literature	HÄKEL H.: Weather and climate. Multico, 2009.REYNOLDS R.: A guide to weather. 2004.
eResources addresses	

Example issues/ example questions/ tasks being completed

Recognize the baric systems, shown on the mapDetermine the direction and speed of geostrophic winds for a specific pointRecognize the types of clouds, shown in the photos

Work placement

Not applicable

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