University of Gdańsk

Subject card

Subject name and code	Meteorology I, PG_00131468		
Field of study	Marine Hydrography		
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
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	1.0
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	dr Janusz Filipiak	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	0.0	0.0	10
	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	10	1.0	14.0	25

Subject objectives	Familiarization with basic physical processes in the ocean-atmosphere system for analyzing current weather conditions and their evolution.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[HML3-U08] 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	The student is able to independently use professional literature on meteorology, available in traditional and electronic form, databases and the Internet; is able to integrate, evaluate and make correct interpretations obtained information and draw conclusions based on it.	[SU4] test/exam - oral or written
[HML3-W02] 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	Student knows the basics of the atmosphere and sea and the interaction between both domains of natural system.	[SW4] test/exam - oral or written
[HML3-W13] global environmental problems resulting from the development of civilisation, in particular strong anthropopressure in the coastal regions of seas and oceans	Student knows the global problems of the marine and atmospheric environment resulting from the development of civilization, especially the strong anthropopression in the coastal regions of the seas and oceans.	[SW4] test/exam - oral or written
[HML3-K01] correctly identify and resolve professional dilemmas, especially in the aspects of security and entrusted property	Studnet is able to complete tasks on time during work individual and team	[SK4] test/exam - oral or written
[HML3-U14] use the applicable terminology in presenting and discussing problems related to the field of study	Student is able to use the current scientific terminology in presenting and discussing problems in meteorology.	[SU4] test/exam - oral or written
[HML3-W01] selected facts, phenomena and processes, as well as methods and theories concerning them, explaining the complex relationships between them, constituting basic general knowledge in the field of scientific disciplines forming the theoretical foundations specific to the field of study	Student knows the basic phenomena and processes in the atmosphere and their interrelationships.	[SW4] test/exam - oral or written

Subject contents

Weather elements observed and measured: Air temperature. Humidity of the air. Types of clouds. Precipitation. Fog and haze. Visibility. Atmospheric pressure. Baric systems, atmospheric fronts. Ice phenomena. Local winds.

Reception and interpretation of weather information on board ship. Principles of meteorological measurements and observations. Completion of the ship's logbook and log of hydrometeorological observations.

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
obtaining a passing grade on the written test in accordance with the rules adopted in the UG Academic Regulations	51.0%	100.0%

Recommended reading

Basic literature	DUXBURY A.: Oceany świata. 2002. HERMAN A.: Podstawy meteorologii. Skrypt do ćwiczeń z przedmiotu "Meteorologia morska". Wydawnictwo Uniwersytetu Gdańskiego, 2006. HOLEC M., TYMAŃSKI P.: Podstawy meteorologii i nawigacji meteorologicznej. 1973. KOŻUCHOWSKI K. (red.): Meteorologia i klimatologia. Wydawnictwo Naukowe PWN, 2007. TRZECIAK S.: Meteorologia morska z oceanografią. PWN, 2006. WIŚNIEWSKI B.: Problemy wyboru drogi morskiej. 1992.
Supplementary literature	HÄKEL H.: Pogoda i klimat. Multico, 2009. REYNOLDS R.: Guide to weather. 2004.

	eResources addresses	
Example issues/ example questions/ tasks being completed	1. Vertical structure of the atmosphere. 2. Practical interpretation of radiation laws. 3. How to read a synoptic map?	
Work placement	Not applicable	

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