University of Gdańsk

Subject card

Subject name and code	Marine Meteorology - laboratory , PG_00204957		
Field of study	Oceanography		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's 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
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit	Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Michalina Bielawska	
	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	18.0	50

Subject objectives	To familiarize students with the physical processes and phenomena characteristic of the atmosphere over sea areas. To familiarize students with aspects of ocean-atmosphere interactions important for processes occurring in the sea and with basic methods and possibilities of using meteorological data in oceanography.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[OCEANMU2-K04] is ready to critically evaluate his/her knowledge and received content in the field of natural sciences in in particular in the field of the studied specialty, a in problematic situations, supports oneself with knowledge experts	Is ready to critically evaluate the knowledge he/she has and the content he/she receives in the field of atmospheric sciences.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
	[OCEANMU2-W01] knows and understands in-depth specialized terminology used in oceanography and related sciences (in Polish and a selected foreign language)	Knows and understands in-depth the specialist terminology used in atmospheric sciences; knows and understands in-depth the complex relationships between processes occurring in the sea and the atmosphere	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
	[OCEANMU2-U04] is ready to develop in an analytical and synthetic way research and analysis results and based on them creating conclusions	Is able to develop research and analysis results in an analytical and synthetic manner and draw correct conclusions based on them.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
	[OCEANMU2-W02] knows and understands complex processes and phenomena occurring in the marine environment, with particular emphasis on the coastal zone, as well as complex relationships between living and non-living elements of the aquatic environment	Knows and understands in-depth the processes and phenomena occurring in the marine environment, with particular emphasis on the coastal zone, as well as the complex relationships between animate and inanimate elements of the aquatic environment.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
	[OCEANMU2-U06] is able to use specialized computer software as well as advanced mathematical and statistical methods to analyze data and describe processes and phenomena occurring in the marine and coastal environment; evaluates their reliability and usefulness and performs critical analysis	Is able to use specialist computer software and mathematical and statistical methods in data analysis and description of phenomena and processes occurring in the atmosphere	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
	[OCEANMU2-U02] is able to fluently and accurately use scientific terminology when presenting and discussing oceanographic issues, and to propose and justify innovative solutions	Knows and understands in-depth the specialist terminology used in atmospheric sciences; knows and understands in-depth the complex relationships between processes occurring in the sea and the atmosphere	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
	[OCEANMU2-W04] has an in-depth understanding of the latest research trends in oceanography, as well as the possibilities for practical application of related achievements; evaluates their usefulness and limitations in solving scientific research problems, and critically analyzes and assesses their applicability	Knows and understands the latest research trends in oceanography as well as the possibilities of practical application of scientific achievements in data analysis and description of phenomena and processes occurring in the atmosphere.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
Subject contents	1. Analysis of the structure of the atmospheric boundary layer and cloud cover over the ocean (vertical profiles of temperature, humidity, wind speed; vertical stability; cloud cover and precipitation).2. Atmosphere over coastal upwelling zones - analysis of data from the southern Baltic Sea (temporal and spatial variability of atmospheric features in the upwelling zone; the influence of upwelling on sea-atmosphere interactions).3. PCA analysis of spatial data and its use for data analysis in meteorology.4. Analysis of correlation and coherence of selected processes in the sea and atmosphere.		
Prerequisites and co-requisites			

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	completing a term paper - project or presentation	51.0%	50.0%
	test	51.0%	50.0%
Recommended reading	Basic literature	Herman, A., 2006, Fundamentals of meteorology. Script for exercises in the subject "Marine meteorology", UG Publishing House	
	Supplementary literature	Trzeciak, S., 2009, Marine Meteorology with Oceanography, PWN, 280 pp. Moran, J.M., Morgan, M.D., Pauley, P.M., 1996, Meteorology: the atmosphere and the science of weather, Prentice Hall, 530 pp. MetEd educational materials (https://www.meted.ucar.edu/).	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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