University of Gdańsk

Subject card

Subject name and code	Marine Meteorology - laboratory exercises, PG_00054566		
Field of study	Oceanography		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	postgraduate 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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr Michalina Bielawska	
	Teachers	dr Michalina Bielawska	

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	5.0	15.0	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-U06] can use specialized computer software and advanced mathematical and statistical methods in data analysis and description of processes and phenomena occurring in the marine environment and coastal zone	Is able to use specialist computer software as well as mathematical and statistical methods in data analysis and description of phenomena and processes occurring in the atmosphere	[SU2] 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 interrelationships between processes occurring in the sea and the atmosphere	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report
[OCEANMU2-W04] knows and understands the latest research trends in the field of oceanography as well as the possibilities of practical application of scientific achievements	Is able to develop research and analysis results in an analytical and synthetic manner and draw correct conclusions based on them	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report
[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 [SK8] observation of student's independent or team work
[OCEANMU2-U02] can use scientific terminology fluently and appropriately in presenting and discussing problems in the field of oceanography	Is able to use scientific terminology fluently and appropriately in presenting and discussing problems in the field of meteorology	[SU2] 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	[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 specialist terminology used in atmospheric sciences; knows and understands in-depth the complex interrelationships between processes occurring in the sea and the atmosphere	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report

Subject contents

B. Exercise topics B.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). B.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). B.3. PCA analysis of spatial data and its use for data analysis in meteorology. B.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
test	51.0%	50.0%
completing a term paper - project or presentation	51.0%	50.0%

Recommended reading

Basic literature	Herman, A., 2006, Podstawy meteorologii. Skrypt do ćwiczeń z przedmiotu "Meteorologia morska", Wyd. UG (in Polish)
Supplementary literature	Trzeciak, S., 2009, Meteorologia morska z oceanografią, PWN, 280 s. (in Polish) Moran, J.M., Morgan, M.D., Pauley, P.M., 1996, Meteorology: the atmosphere and the science of weather, Prentice Hall, 530s. Materiały edukacyjne MetEd (https://www.meted.ucar.edu/).
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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