University of Gdańsk

Subject card

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| Subject name and code | Marine Meteorology - laboratory , PG_00204957 | | | | | | |
| Field of study | Oceanography | | | | | | |
| Date of commencement of studies | October 2027 | | Academic year of realisation of subject | | 2027/2028 | | |
| Education level | Master's studies | | Subject group | | Obligatory subject group in the field of study<br>Optional subject group<br>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. | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [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<br>[SW2] 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<br>[SU2] 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<br>[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 relationships between processes occurring in the sea and the atmosphere | [SW1] oral statement/ conversation/discussion<br>[SW2] presentation/project/paper/ report |
| | [OCEANMU2-K04] is ready to critically evaluate his/her knowledge and<br>received content in the field of natural sciences in<br>in particular in the field of the studied specialty, a<br>in problematic situations, supports oneself with knowledge<br>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<br>[SK2] presentation/project/paper/ report |
| | [OCEANMU2-U04] is ready to develop in an analytical and synthetic way<br>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<br>[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<br>[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 | | | |

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| 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, 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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