UNIWERSYTET GDAŃSKI

Course title Meteorologia i klimatologia/Meteorology and climatology	**ECTS code** 7.2.0570

Name of unit administrating study

Faculty of Chemistry

Studies

Field of study	Type	Form	
Environmental Protection	Bachelor	Full-time studies	

Teaching staff
Prof. dr hab. Mirosław Miętus

Forms of classes, the realization and number of hours

A. Forms of classes, in accordance with the UG Rector's regulations
lecture, audytorium classes, outdoor activities

B. The realization of activities
In-class learning, outdoor activities

C. Number of hours
lecture 15 h, audytorium classes 30 h

ECTS credits

15 h of lecture - 0,5 ECTS
30 h of audytorium classes - 1 ECTS
15 h of tutorial classes - 0,5 ECTS
50 h of student's own work - 2 ECTS
TOTAL: 110 h - 4 ECTS

The academic cycle
2019/2020 summer semester

Type of course
obligatory

Language of instruction
Polish

Teaching methods

Lectures with multimedial presentations
Work in groups
Projects
Solving problems

Form and method of assessment and basic criteria for evaluation or examination requirements

A. Final evaluation, in accordance with the UG study regulations
Course completion (with a grade), exam

B. Assessment methods
Written examination with open questions (tasks)
Positive assessments of the colloquia

D. **The basic criteria for evaluation**
A lecture: Obtaining a positive mark from the examination, reflecting the achievement of the assumed educational results in the scope of knowledge, skills and competences of the student.
Exercises: timeliness, completeness and correctness of the tasks performed, obtaining a positive assessment of all the tasks performed within the framework of the exercises and positive assessments of the colloquia.

Required courses and introductory requirements
Basic knowledge in mathematics and statistic
Basic knowledge about atmosphere from geography, about ideal gases physics on the level of secondary school

Aims of education

Lecture: basic knowledge about the atmosphere and its processes. Recognition and interpretation of meteorological phenomena and processes in connection with the state of the natural environment. Determination of the effects of weather conditions on the geographical environment, economy and human health.
Exercises: getting to know basic sources of information in meteorology and climatology. Learning the main principles and objectives of meteorological observations. The ability to preliminarily process meteorological data and analyse climatological time series.

Course contents

A. Lecture's problems
A.1. Subjects of meteorological and climatological research
A.2. Atmosphere (its structure and characteristics, antropogenic changes of atmospheric components)
A.3. Radiation of the Sun, the Earth and its atmosphere
A.4. Heat balance of the Earth surface
A.5. Water in the atmosphere
A.6. Adiabatic processes
A.7. Atmospheric circulation
A.8. Selected issues of climatology (climatic processes and factors, local climate features, zonal and non-zonal climatic factors, climate of Poland, global climate change)

B. Task's problems
B.1. Organization of meteorological observation networks in Poland
B.2. Basic sources of data in climatology
B.3. Meteorological elements – basic information about methods of observation and data processing
B.4. Basic statistical and graphical methods of data processing in meteorology.

Bibliography of literature

A. Literature required to pass the course

Kożuchowski K., 1998. Atmosfera, klimat, ekoklimat. Wydawnictwo Naukowe PWN.
Kożuchowski K. (red), 2005, Meteorologia i Klimatologia, PWN
Woś A., 2000. Meteorologia dla geografów. Wydawnictwo Naukowe PWN.

B. Extracurricular readings

Bac S., Koźmiński C., Rojek M., 1998. Agrometeorologia. Wydawnictwo Naukowe PWN.
Kożuchowski K., 2011, Klimat Polski. Nowe spojrzenie, PWN
Lorenc H. (red), 2005, Atlas klimatu Polski, IMGW.
Martyn D., 2000, Klimaty kuli ziemskiej, PWN
Niedźwiedź T. (red.), 2003 Słownik meteorologiczny. PWN.
Schoenwiese Ch-D., 1997. Klimat i człowiek. Prószyński i S-ka.
Pruchnicki J., 1989. Metody opracowań klimatologicznych. PWN.
Ustrnul Z., Czekierda D., 2009, Atlas ekstremalnych zjawisk meteorologicznych oraz sytuacji synoptycznych w Polsce, IMGW
Woś A., 1999. Klimat Polski. Wydawnictwo Naukowe PWN.
Woś A., 2010. Klimat Polski w drugiej połowie XX wieku. Wydawnictwo Naukowe UAM.