POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Meterology 2

Course

Field of study	Year/Semester
Aerospace Engineering	3/5
Area of study (specialization)	Profile of study
Flight Training For Civil Aviation	general academic
Level of study	Course offered in
First-cycle studies	polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
30		
Tutorials	Projects/seminars	

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

Piotr Szewczak

Wydział Inżynierii Środowiska i Energetyki

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tel. +48 781 774 180

Responsible for the course/lecturer:

Prerequisites

The student starting this subject should have basic knowledge of environmental phenomena, physical processes shaping the weather, interpretation of weather forecasts presented in various forms. He should also have the ability to apply the scientific method in solving problems and be ready to cooperate within a team.

Course objective

Familiarizing the student with the processes and phenomena determining the weather, weather systems and phenomena dangerous to flight and disruptive to the operation of navigation and communication devices.

Course-related learning outcomes

Knowledge

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1. has basic knowledge of measurement methods, characteristics of measuring instruments and their classification according to purpose, principles of operation and features, knows sensors and measuring transducers, registration of results, measurement systems, measurement errors - the influence of external factors, statistical analysis of measurement results, organization principles active and passive experiment.

2. has detailed knowledge related to selected issues in the field of the most important phenomena occurring in the Earth's atmosphere, the possibility of their prediction, recognition, research, as well as limiting the negative impact of human activities on the surrounding environment.

3. has expanded knowledge of technical vocabulary, in particular specialized terminology used in the departments of science and technology related to aviation engineering.

Skills

1. knows how to use a language to a degree enabling understanding of technical texts in the field of aviation (knowledge of technical terminology).

2. has the ability to self-study using modern teaching tools, such as remote lectures, websites and databases, teaching programs, e-books.

3. can obtain information from literature, the Internet, databases and other sources. Is able to integrate obtained information, interpret and draw conclusions from them.3. is able to conduct a research experiment using measuring apparatus, computer simulations, is able to make measurements, such as measurements of temperature, velocity and flow rate, pressure and operating forces, as well as interpret results and draw conclusions.

Social competences

1. is aware of the importance of maintaining the principles of professional ethics.

2. is aware of the importance and understands the non-technical aspects and effects of engineering activities, including its impact on the environment, and the associated responsibility for the decisions taken.

3. understand the need for critical assessment of knowledge and continuous education.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture:

- assessment of knowledge and skills demonstrated on the written test - 1.5 hour

Programme content

Lecture:

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semester5:

Precipitation. Types of precipitation. Process of development of precipitation. Air Masses and Fronts. Modifications of air masses. Describe the boundaries between air masses (fronts). Description, classification and source regions of air masses. Pressure systems. Anticyclones, types, general properties, cold and warm anticyclones, ridges and subsidence. Non-frontal depressions. Tropical revolving storms.

Teaching methods

1. Lecture: multimedia presentation, illustrated with examples given on the board.

Bibliography

Basic

1.   Domicz J., Szutowski L. Podręcznik pilota samolotowego, Technika Poznań 2001 Dunlop S.,

2.   Pogoda - przewodnik ilustrowany, Świat Książki Warszawa 2003 Międzynarodowy atlas chmur, WMO 1956

3.   Ostrowski M., Meteorologia dla lotnictwa sportowego, Aeroklub Polski Warszawa 2004

4.   Petterssen S., Zarys meteorologii PWN Warszawa 1964

5.   Roth G., Pogoda i klimat, Świat Książki Warszawa 2000

6.   Schmidt M., Meteorologia WKiŁ Warszawa 1975

7.   Schmidt M., Meteorologia dla każdego WKiŁ Warszawa 1972

8.   Szewczak P., Meteorologia dla pilota samolotowego (PPL, CPL, ATPL, IR), Avia-test Poznań 2007

9.   Słownik meteorologiczny pod red. Niedźwiedź T. PTGeofizyczne IMGW Warszawa 2003

10.   Słownik pojęć geograficznych WEGŚ pod red. Kostrzewski A. Poznań 2001

11.   Szczeciński Cz., Meteorologia na usługach lotnictwa WK Warszawa 1952

12.   Światowa Organizacja Meteorologiczna, Podstawy meteorologii opr. B.J.Retallack IMGW 1991

13.   Tamulewicz J., Pogoda i klimat Ziemi, WEGŚ tom V Poznań 1997

14.   Tamulewicz J., Wody i klimat Ziemi, Pogoda i klimat Poznań 2001

15.   Woś A. Meteorologia dla geografów PWN Warszawa 1996

16.   Zwieriew A.S. Meteorologia synoptyczna, WKiŁ Warszawa 1965

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Additional

Breakdown of average student's workload

	Hours	ECTS
Total workload	47	2,0
Classes requiring direct contact with the teacher	32	1,5
Student's own work (literature studies, preparation for exercises, preparation for colloquium, preparation for passing lecture / exercises) [1]	15	0,5

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[1] delete or add other activities as appropriate