STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Meteorology**		Code **1010604121010637514**
Field of study **Aerospace Engineering**	Profile of study (general academic, practical) **general academic**	Year /Semester **1 / 2**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **part-time**	
No. of hours Lecture: **9** Classes: **9** Laboratory: **-** Project/seminars: **-**		No. of credits **2**
Status of the course in the study program (Basic, major, other) **other**	(university-wide, from another field) **university-wide**	
Education areas and fields of science and art **technical sciences**		ECTS distribution (number and %) **2 100%**

Responsible for subject / lecturer:

mgr Maria Nowaczyk
email: maria12330@gmail.com
tel. +48 603 793 407
Faculty of Transport Engineering
ul. Piotrowo 3 60-965 Poznań

Responsible for subject / lecturer:

dr hab. inż. Agnieszka Wróblewska
email: agnieszka.wroblewska@put.poznan.pl
tel. +48 784 698 595
Faculty of Transport Engineering
ul. Piotrowo 3 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	in the field of knowledge of phenomena occurring in the environment, physical processes shaping the weather, interpretation of weather forecasts presented in various forms. [PKR4]
2	**Skills**	is able to apply the scientific method in solving problems [PKR4]
3	**Social competencies**	knows the limits of his knowledge and skills; can work in a group [PKR4]

Assumptions and objectives of the course:

familiarize the student with processes and phenomena determining the weather, weather systems and phenomena dangerous for the flight and disruptive operation of navigation devices and communication

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. has basic knowledge in the field of metrology, knows: measurement methods, characteristics of measuring instruments and their classification according to purpose, principles of operation and metrological features, workshop metrology, sensors and measuring transducers, results registration, measurement systems, measurement errors - influence of external factors - [K1A_W08]

Skills:

1. knows how to use native and international languages to the extent that it is possible to understand technical texts and write technical descriptions of machines in the field of aviation and aeronautics using dictionaries - [K1A_U03]

2. can obtain information from literature, the internet, databases and other sources. Can integrate the information obtained and interpret conclusions and create and justify opinions - [K1A_U04]

Social competencies:

1. understands the need to learn throughout life; can inspire and organize the learning process of other people - [K1A_K01]

2. can interact and work in a group, taking on different roles in it - [K1A_K03]

3. able to properly define the priorities for the implementation of a task set by himself or others - [K1A_K04]

Assessment methods of study outcomes

Lecture:

- assessment of knowledge and skills demonstrated on written exam

Exercises classes:

- assessing the ability to solve accounting problems in the field of basic thermodynamics, colloquia during the semester

Course description

Processes and phenomena determining weather, weather systems. Meteorological instruments and their application. Organization of meteorological services. Systems for broadcasting weather forecasts. Conventions for publishing climate and hydrometeorological information. Characteristics of natural environments and their protected elements. Threats to the environment resulting from selected military and non-military threats as well as unfavorable factors affecting the environment. The main environmental hazards associated with automotive technology and means of struggle. Storage and handling of pollutants, waste, materials and hazardous substances. Development of waste products generated as a result of operation and disposal of armaments and military equipment, including vehicles. Environmental protection of subunits and branches on training ground, exercise centers and tactical activities.

Basic bibliography:

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

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)

Student's workload

Source of workload	hours	ECTS
Total workload	50	2
Contact hours	0	1
Practical activities	0	1