



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Airfields

### Course

Field of study

Aerospace Engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

1/2

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

### Number of hours

Lecture

30

Laboratory classes

Tutorials

Projects/seminars

15

Other (e.g. online)

### Number of credit points

4

### Lecturers

Responsible for the course/lecturer:

Mateusz Nowak

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Responsible for the course/lecturer:

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### Prerequisites

Knowledge: Basic knowledge of the English language, understanding of basic issues related to transport logistics

Skills: Acquiring knowledge with understanding.

Social competences: Is prepared for team work.

### Course objective

Getting to know the basic sources of aviation law, conventions, applicable regulations.

### Course-related learning outcomes

Knowledge



1. has extended knowledge necessary to understand the profile subjects and specialist knowledge about the construction, operation, air traffic management, safety systems, impact on the economy, society and the environment in the field of aviation and aerospace [P7S\_WG, P7S\_WK, K2A\_W01]
2. has detailed knowledge related to selected issues in the field of ground handling of aircraft and propulsion systems, taking into account logistics aspects [P7S\_WG, K2A\_W19]
3. has detailed and structured knowledge in the field of the use of air technical facilities for the transport of people, goods, dangerous goods, as well as in the management of air operations and airports [P7S\_WG, K2A\_W23]

#### Skills

1. Can communicate using various techniques in the professional environment and other environments using the formal notation of the structure, technical drawing, concepts and definitions of the scope of the studied field of study [7S\_UK, K2A\_U02]

#### Social competences

1. understands the need for lifelong learning; can inspire and organize the learning process of other people [P7S\_UU, K2A\_K01]
2. Is ready to critically evaluate his knowledge and received content, recognize the importance of knowledge in solving cognitive and practical problems and consult experts in the event of difficulties with solving the problem on his own [P7S\_KK, K2A\_K02]
3. is aware of the social role of a technical university graduate, and especially understands the need to formulate and transmit to the society, in particular through the mass media, information and opinions on the achievements of technology and other aspects of engineering activities; makes efforts to provide such information and opinions in a commonly understandable manner [P7S\_KO, K2A\_K08]

#### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

a final test covering the material discussed

project submission and defense at the end of the semester

#### Programme content

1. Introduction (airport origins, key definitions, airport identification methods)
2. Airport infrastructure (structure and elements of the movement area, PRN horizontal and vertical markings, light and technical aids and apron lighting)
3. Terminals and ground handling (terminal classification, main elements, design principles, terminal configurations, passenger and baggage handling)
4. Polish airports and air traffic (statistics, configurations, locations)



5. Airspace in the vicinity of airports and airport navigation aids
6. Designing the movement area
7. Airport capacity
8. Impact, airport design, location (airport pressure zone, airport profit structure, environmental regulations regarding the establishment of airports)
9. Key airports in the world - statistics, analyzes

Content realized as part of the project activities:

Airport design

1. Acceptance of input data for the project (selection of the aircraft and location of the airport).
2. Wind directions and frequencies
3. Calculation of the length of the main runway. Adoption of the airport reference code
4. Determining the azimuth of the runway
5. Air operations calculations. Adoption of taxiway dimensions
6. Diagram of the designed airport
7. Defense of the project

### Teaching methods

Informative (conventional) lecture (providing information in a structured way) - may be of a course (introductory) or monographic (specialist) character,

Project method (individual or team implementation of a large, multi-stage cognitive or practical task, the effect of which is the creation of a work)

### Bibliography

Basic

1. Żylicz. M. International Aviation Law, Lexis, Warsaw 2011
2. Compa.M. Airspace capacity. WLOP Dęblin 2009
3. ICAO Annexes
4. Chakuu S., Kozłowski P., Nędza M. : Basics of air transport, Academic Consortium, Kraków, Rzeszów, Zamość 2012
5. Nita S. Designing airports and airports, 2014



6. Kozłowski M., Airports - infrastructure, operation and management, Warsaw, 2015

Additional

1. Training materials, internal of the Polish Air Navigation Services Agency
2. Rydzkowski W., Wojewódzka-Król K. (ed.): Transport. PWN, Warsaw 1998

**Breakdown of average student's workload**

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	45	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	55	2,0

<sup>1</sup> delete or add other activities as appropriate