



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Air transport safety I

Course

Field of study

Aerospace Engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/5

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

Number of hours

Lecture

60

Laboratory classes

30

Other (e.g. online)

0

Tutorials

30

Projects/seminars

0

Number of credit points

9

Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

Wydział Inżynierii Lądowej i Transportu

ul. Piotrowo 3 60-965 Poznań

Prerequisites

Basic knowledge of: the functioning of aviation, air transport, human reliability in aviation, aviation safety, security systems.

Course objective

Expanding knowledge in the field of aviation safety. Learning and training skills related to aviation safety management. Preparation for the development of SMS Safety Management Systems in institutions and aviation companies.

Course-related learning outcomes

Knowledge

1. Has extended knowledge necessary to understand the profile subjects as well as specialist knowledge



of construction, operation, air traffic management, safety systems, the impact on the economy, society and the environment in the field of aviation and space science - [K2A_W01]

2. He can develop a safety management system for an airline company and a security audit for an airport. Has extensive knowledge of the documents required to ensure security in aviation facilities - [K2A_W07]

3. Has detailed knowledge related to selected issues in the field of human capabilities and limitations in aviation and aerospace - [K2A_W16]

4. Has detailed knowledge related to selected issues in the field of ground handling of aircraft and propulsion systems, taking into account logistics aspects - [K2A_W19]

5. Has ordered, theoretically founded general knowledge covering key issues in the field of flight safety and risk assessment - [K2A_W22]

Skills

1. Is able to communicate using various techniques in the professional environment and other environments, using the formal notation of construction, technical drawing, concepts and definitions of the scope of the field of study - [K2A_U02]

2. Has the ability to self-educate with the use of modern didactic tools, such as remote lectures, websites and databases, didactic programs, electronic books - [K2A_U03]

3. Can obtain information from literature, the Internet, databases and other sources. Can integrate the obtained information, interpret and draw conclusions from it, and create and justify opinions - [K2A_U04]

4. Can develop a safety instruction for an on-board device, machine or technical flying object in specific environmental conditions [K2A_U12]

Social competences

1. Understands the need for lifelong learning; can inspire and organize the learning process of other people - [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 - [K2A_K02]

3. Can interact and work in a group, taking different roles in it - [K2A_K04]

4. Is aware of the social role of a technical university graduate, and especially understands the need to formulate and convey 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 - [K2A_K08]



Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

LECTURE: Assessment of knowledge and skills on the written or oral test based on the explanation of selected issues

TUTORIALS: Assessment of knowledge and skills on the written test on the basis of solved tasks

LABORATORY: Assessment of knowledge and skills on the basis of reports from classes prepared by the student

Programme content

LECTURE History of security management. Overview of the main stages in the development of safety engineering. The actual role of SMS in civil aviation (division of responsibilities between EU and national offices, discussion of the main legal acts, requirements for safety management systems implemented in airlines, examples of requirements implementation, the method of CAO supervision over entities, typical irregularities identified during inspections). Scientific discussion on the problems of safety management systems.

EXERCISES: Classes provide an example of solving the task on the blackboard (from the scope presented in the lecture) along with the analysis of subsequent stages. The way students solve the task on the blackboard is reviewed by the tutor.

LABORATORY: Practical classes using the simulation research laboratory. Research on the behavior and psychophysical condition of the pilot during flight with the use of the CKAS MotionSim5 flight simulator.

Teaching methods

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

The exercise method (subject exercises, practice exercises) - in the form of auditorium exercises (application of the acquired knowledge in practice - may take various forms: solving cognitive tasks or training psychomotor skills; transforming a conscious activity into a habit through repetition)

Laboratory (experiment) method (students independently conduct experiments)

Bibliography

Basic

1. Załącznik 19 do Konwencji o międzynarodowym lotnictwie cywilnym
2. Kadziński A., Studium wybranych aspektów niezawodności systemów oraz obiektów pojazdów szynowych, Wydawnictwo Politechniki Poznańskiej, Poznań 2013



3. Rozporządzenie Parlamentu Europejskiego i Rady (WE) nr 216/2008 w sprawie wspólnych zasad w zakresie lotnictwa cywilnego i utworzenia Europejskiej Agencji Bezpieczeństwa Lotniczego (z późniejszymi zmianami)

4. Safety Management Manual (SMM), ICAO, wyd. 3, 2012

Additional

1. Sumeer Charkuj, Piotr Kozłowski, Michał Nędza: Podstawy transportu lotniczego, Konsorcjum Akademickie Kraków–Rzeszów–Zamość 2012

2. Podręczniki szkoleniowe EASA ATPL Series

Breakdown of average student's workload

	Hours	ECTS
Total workload	225	9,0
Classes requiring direct contact with the teacher	140	6,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	85	3,0

¹ delete or add other activities as appropriate