COURSE DESCRIPTION CARD - SYLLABUS

Course name
Safety managment system [S2LiK2P>SZBSMS]

Course

Field of study
Aerospace Engineering

Year/Semester
2/3

Area of study (specialization)
–

Profile of study
practical

Level of study
second-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
0

Other (e.g. online)
0

Tutorials
15

Projects/seminars
0

Number of credit points

2,00

Coordinators

dr inż. Mariusz Krzyżanowski

Lecturers

Prerequisites

Knowledge: The student has basic knowledge of air transport and rules of air traffic organisation, knows the legal basis of aviation operation and has general knowledge of transport safety management Skills: The student is able to associate and integrate information obtained, analyse phenomena occurring in the environment, draw conclusions, formulate and justify opinions Social competences: The student is able to search for information in literature and knows the rules of discussion; has the ability to formulate a research problem and look for its solution, shows independence in solving problems and ability to cooperate in a group

Course objective

Introduction to and mastery of basic knowledge of air traffic safety management systems, safety culture and safety measurement methods.

Course-related learning outcomes

Knowledge:
1. Has extended knowledge necessary to understand the profile subjects and specialist knowledge about air traffic management, safety systems, impact on the economy, society and the environment in the field of aviation

2. Has a structured, theoretically founded general knowledge covering key issues in the field of flight safety and risk assessment

Skills:
1. Is able to name and describe the security policy and objectives, knows the requirements in the field of security management
2. Is able to identify the sources of threats in various areas of aircraft operation, formulate the related threats, assess the risk of threats using appropriate methods and propose ways to ensure safety
3. Understands the need for lifelong learning, can inspire and organize the learning process of other people

Social competences:
1. Is ready to critically evaluate the knowledge and content received, recognize the importance of knowledge in solving cognitive and practical problems, and consult experts in case of difficulties in solving the problem on its own
2. 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 technological achievements and other aspects of engineering activities; makes efforts to provide such information and opinions in a generally comprehensible manner

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Written test with the content presented and discussed during the class

Programme content

1. Introduction to Safety Management System (SMS)
2. ICAO and CANSO SMS Model
3. Safety policy and objectives in PANSA
4. Reporting systems for occurences affecting aviation safety
5. Occurence investigation and tools used in the process
6. Safety measurement -lagging and leading indicators
7. Hazard identification and risk management - rules and methods of risk evaluation and analysis in ATM/ANS functional systems
8. Safety surveys
9. Safety Culture with Just Culture
10. Safety promotion and co-operation between SMS of aviation organisations
11. New approach to safety management system - Safety II

Course topics

none

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)

Bibliography

Basic:
1. Safety Management Manual, ICAO Doc 9859, 4th edition, 2018
2. Skorupski J.: Ilościowe metody analizy incydentów w ruchu lotniczym, 2018, Oficyna Wydawnicza Politechniki Warszawskiej.
3. Skorupski J.: Metody wymiarowania bezpieczeństwa ruchu lotniczego, 2009

Additional:

1. Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight
2. Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation
3. Ustawa Prawo lotnicze z dnia 3 lipca 2002 r. z późniejszymi zmianami - Załącznik do obwieszczenia Marszałka Sejmu Rzeczypospolitej Polskiej z dnia 17 września 2020 r. (poz. 1970)

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	20	1,00