



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Safety management [S2LiK2P>ZB]

Course

Field of study

Aerospace Engineering

Year/Semester

1/2

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

15

Other (e.g. online)

0

Tutorials

0

Projects/seminars

15

Number of credit points

2,00

Coordinators

dr inż. Mariusz Krzyżanowski

Lecturers

Prerequisites

Knowledge: The student is familiar with general knowledge of civil aviation and has a basic understanding of civil aviation standards and legal requirements. Skills: The student is able to analyze and combine facts, as well as conduct research based on his/her analyses and construct conclusions. Social competences: the ability to formulate questions precisely; the ability to identify priorities that are important when solving the tasks set before him; ability to formulate a research problem and search for its solution, independence in problem solving, ability to cooperate in a group.

Course objective

1. Familiarizing students with the concept of safety in civil aviation. 2. Presentation of the process of evolution of safety over the years. 3. Familiarization with the legal requirements in the field of management system in aviation organizations 4. Presentation of risk identification and assessment 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 basic knowledge of aircraft movement in the air and air traffic services
3. 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

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:

LECTURE: Single-choice written test.

EXERCISES: Assessment of work in class.

LABORATORY: Preparation of reports on the performance of individual laboratory exercises or development and presentation of issues asked by the lecturer. Optional assessment of students' knowledge before proceeding with the coursework.

Programme content

LECTURE:

1. The concept of safety and historical background of safety management development in aviation.
2. Introduction to international safety management requirements.
3. Integration of management systems
4. Risk management and methods for hazard identification and risk assessment of the safety of flight operations.
5. The role of European organizations in the process of implementation of safety standards in civil aviation and the characteristics of innovative activities in the field of aviation safety.

EXERCISE:

1. Risks identification in a change management process
3. Elaboration of safety analysis
4. Review of the European Aviation Safety Plan
5. Verification of the National Aviation Safety Programme and Plan

LABORATORY:

1. Calculation of the level of risk for flight operations
2. Risk assessment for changes in the ATM/CNS functional system
3. Analysis of trends and alarm levels for SPI safety indicators.

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)

Laboratory method

Bibliography

Basic:

1. Bujanowski M. Bezpieczeństwo lotnictwa cywilnego, Aspekty współpracy międzynarodowej, wydawnictwo scholar, 2019 r.
2. Nurzyńska A. Bezpieczeństwo usług w międzynarodowym transporcie lotniczym przewóz pasażerów, 2019 r.
3. Safety Management Systems for Aviation Practitioners: Real-world Lessons, American Institute of Aeronautics and Astronautics, 2013
4. Łuczak K, Zarządzanie Bezpieczeństwem w Lotnictwie Cywilnym, Katowice 2016;
5. P. Duryś F. Jasiński - Wybór aktów prawnych do nauki międzynarodowego prawa lotniczego, Warszawa, 1999, LIBER
6. J. Karpowicz, E. Klich - Bezpieczeństwo lotów i ochrona lotnictwa przed aktami bezprawnej ingerencji, Warszawa, 2004, MON
7. M. Żylicz - Prawo lotnicze, międzynarodowe, europejskie i krajowe, Warszawa 2011

Additional:

1. Podręcznik zarządzania bezpieczeństwem, Doc 9859 ICAO Organizacja Międzynarodowego Lotnictwa Cywilnego, wydania III, IV.
2. Załącznik 19 do konwencji chicagowskiej
3. Rozporządzenie Parlamentu Europejskiego i Rady (UE) 2018/1139 z dnia 4 lipca 2018 r. w sprawie wspólnych zasad w dziedzinie lotnictwa cywilnego i utworzenia Agencji Unii Europejskiej ds. Bezpieczeństwa Lotniczego oraz zmieniające rozporządzenia Parlamentu Europejskiego i Rady (WE) nr 2111/2005, (WE) nr 1008/2008, (UE) nr 996/2010, (UE) nr 376/2014 i dyrektywy Parlamentu Europejskiego i Rady 2014/30/UE i 2014/53/UE, a także uchylające rozporządzenia Parlamentu Europejskiego i Rady (WE) nr 552/2004 i (WE) nr 216/2008 i rozporządzenie Rady (EWG) nr 3922/91
4. Rozporządzenie Wykonawcze Komisji (UE) 2017/373 z dnia 1 marca 2017 r. ustanawiające wspólne wymogi dotyczące instytucji zapewniających zarządzanie ruchem lotniczym/służby żeglugi powietrznej i inne funkcje sieciowe zarządzania ruchem lotniczym oraz nadzoru nad nimi, uchylające rozporządzenie (WE) nr 482/2008, rozporządzenia wykonawcze (UE) nr 1034/2011, (UE) nr 1035/2011 i (UE) 2016/1377 oraz zmieniające rozporządzenie (UE) nr 677/2011 .

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	45	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	5	0,00