



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Air transport of dangerous goods

Course

Field of study

Aerospace Engineering

Area of study (specialization)

Air transport

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

4/7

Profile of study

general academic

Course offered in

polish

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

dr hab. inż. Jan Rajchel

Responsible for the course/lecturer:

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Wykładowca zewnętrzny

Prerequisites

The student has basic knowledge of air transport, logistics, physics and chemistry. Has the ability to precisely formulate questions; ability to set priorities important in solving the set tasks. The student is able to integrate the information obtained, interpret it, draw conclusions, formulate and justify opinions of the ability to perceive, associate and interpret phenomena occurring in air transport management. The student is aware of the importance and understands the non-technical aspects and effects of transport activities, including issues related to dangerous goods.

Course objective

To familiarize students with the basics of knowledge about dangerous goods, legal, national and international regulations regarding the transport of dangerous goods (e.g. IATA DGR), air transport means, methods and techniques of their preparation for air transport, air transport itself, transshipment and storage.



Course-related learning outcomes

Knowledge

1. Knows the concept of cargo as well as the features and types of cargo.
2. Knows types and methods of forming loading units.
3. Knows the basic principles and techniques of marking and identifying loads.
4. Knows the basic types of transport technologies and the legal basis of transport.

Skills

1. Is able to assign selected types of loads to appropriate classes of hazardous materials.
2. Is able to assess the transport susceptibility of cargo and transport threats occurring in the environment.
3. Is able to determine the scope of the restriction on the transport of dangerous goods and distinguish between their markings.

Social competences

1. Is aware of the importance of preparing dangerous goods for transport, as well as the risks and responsibilities associated with them.
2. Is aware of the technical, economic and social effects that may be caused by improper preparation of a dangerous load or its transport or storage.
3. Is able to independently develop his knowledge in the field of dangerous goods in aviation.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Assessment of knowledge and skills on written credit in the form of a test.

Programme content

Introduction, sources of law regarding the transport of dangerous goods. Loads - introduction to the subject: load and goods, basic types of loads, including dangerous ones, transport susceptibility of loads, exposure of loads, risk of damage, sensitivity to impacts, basic methods of load classification. Definition of dangerous goods in aviation and their impact on flight safety. Loading units: definition and nature of loading units, tasks of loading units and means, auxiliary means of preparing loading units - classification, types of loading units and detailed discussion of individual types of loading units used in air transport. Marking of loading units / packages and their identification: definition and legal bases, basic types of signs and their form, marking of loading units (including especially dangerous goods). Transport and transshipment technologies: definition, basic types of transport technologies. Arrangement and securing of cargo in the aircraft: cargo distribution (basic guidelines), factors determining cargo safety in aircraft, cargo securing - security measures. Legal bases for aviation cargo transportation, including special (hazardous) cargo. ICAO Regulation (Annex No. 18 to Aviation



Regulations), the Warsaw Convention, the IATA-DGR Convention and the Chicago Convention. Cargo damage: causes and procedures as well as insurance issues, cargo condition monitoring.

Teaching methods

Informative (conventional) lecture (systematic transfer of information) - through multimedia presentations with blackboard aid.

Bibliography

Basic

1. Mindur L. (red.), Technologie transportowe XXI wieku, Instytut Technologii Eksploatacji – PIB, Warszawa 2008
2. Mokrzyński H., Ładunkoznawstwo, Technologia zabezpieczenia ładunków w transporcie, WKiŁ, Warszawa 1985
3. Prochowski L., Żuchowski A., Technika transportu ładunków, WKiŁ, Warszawa 2009

Additional

1. ICAO Technical Instruction. Annex 18.
2. IATA DGR – Dangerous Goods Regulations,
3. Ustawa z dnia 3 lipca 2002 r. Prawo lotnicze, tekst ujednolicony Dz. U. z 2013 r. poz. 1393, z 2014 r. poz. 768.
4. Pusty T., Przewóz materiałów niebezpiecznych, Poradnik kierowcy, WKiŁ, Warszawa 2003
5. Litwinowicz w., Transport lotniczy towarów, Wydawnictwa Komunikacji i Łączności, Warszawa 1969

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,0
Classes requiring direct contact with the teacher	15	0,6
Student's own work (literature studies, preparation for the test) ¹	10	0,4

¹ delete or add other activities as appropriate