



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Transport safety of hazardous materials

Course

Field of study

Safety Engineering

Area of study (specialization)

Safety and crisis management

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

2/3

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

15

Projects/seminars

15

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

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Prerequisites

The student has a basic knowledge of issues related to the transport and safety in transport, including the transport of hazardous materials. The student has the ability to acquire information from specified sources and is ready to actively search, systematize and present knowledge in the field of transport safety of hazardous materials.



Course objective

Systematising basic knowledge related to safety issues in transport. Showing the specifics of safety in transport with particular emphasis on the transport of hazardous materials. Showing the specifics of the transport of hazardous materials, its condition, legal norms, activities of services and institutions responsible for safety in this area, as well as the procedures and actions taken to improve safety in the transport of hazardous materials. Developing skills to solve problems occurring during the preparation and implementation of tasks related to the safety of the transport of dangerous goods.

Course-related learning outcomes

Knowledge

- knows the issues of risk analysis, hazards and their effects related to the functioning of the transport of hazardous materials in different modes of transport (P7S_WG_05).
- knows contemporary development trends and best practices in the field of transport safety systems, including transport of hazardous materials (P7S_WK_02),

Skills

- knows how to correctly select sources and information derived from them, making the assessment, critical analysis and synthesize of this information, formulate conclusions and comprehensively justify the opinion (P7S_UW_01),
- is able to use research, analytical, simulation and experimental methods to formulate and solve engineering tasks, also using information and communication methods and tools (P7S_UW_04),
- is able to make a critical analysis and assess - in conjunction with safety engineering, existing technical solutions, in particular machines, devices, objects, systems, processes and services (P7S_UW_06),

Social competences

- is aware of the recognition of cause-and-effect relationships in achieving the set goals and ranking the significance of alternative or competitive tasks (P7S_KK_01),
- is aware of the recognition of the importance of knowledge in solving problems in the field of safety engineering and continuous improvement (P7S_KK_02),
- is aware of the understanding of non-technical aspects and effects of engineering activities, including its impact on the environment and the associated responsibility for the decisions (P7S_KK_03).



Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge acquired during the lecture is verified by one 45th-minute colloquium carried out during the 7th lecture. Test consists of 15 to 20 questions (test and / or open), variously scored. Passing threshold: 50% of points.

Skills acquired as part of the tutorials are verified on the basis of the current assessment of the tasks ordered and on the basis of the final test, consisting of 3-5 tasks, variously scored depending on their level of difficulty.

Skills acquired as part of the project classes are verified on the basis of the implementation of assigned partial tasks and during the implementation of the project, the subject of which is selected accident associated with the transport of hazardous materials .

Programme content

Lecture:

General characteristics of transport and its types. Presentation of the organization and functioning of entities responsible for safety in different types of transport. Classification of hazardous materials and selected problems of their transport. Technical and legal aspects of the transport of hazardous materials. Dangerous goods transport by road. Transport of dangerous goods by rail. Transport of dangerous goods by sea. Dangerous goods transport by air. Risk of hazardous material transport. Aspects of transport safety in national safety systems.

Tutorial:

Analysis of legal regulations and scopes of competence related to the transport of hazardous materials. Preparation of the process of transporting hazardous materials. Requirements for the storage of hazardous materials. Supervising the transport of dangerous goods. Estimation of the risk of the occurrence of a dangerous good transport. Safety management systems in different types of transport. Rules of conduct in the event of adverse events related to the transport of hazardous materials in specific types of transport, and the tasks of entities.

Project classes:

Analysis of a selected contemporary accident associated with the transport of hazardous materials, consisting of the preparation of factual data, conducting an analysis using, among others taxonomy of the causes of adverse events in a given mode of transport and presentation of the implementation of post-event safety recommendations and assessment of their effectiveness together with own suggestions for recommendations. .

Teaching methods



Lecture: multimedia presentation, illustrated with examples on the board.

Tutorial: multimedia presentation, illustrated with examples given on a board, which are the basis for performing the tasks given by the lecturer. During classes, the classical problem method, case method and practice method are used.

Project classes: multimedia presentation, illustrated with examples given on a board, which are the basis for performing the tasks given by the lecturer. During classes, a practical method is used.

Bibliography

Basic

1. (collective work edited by R. Krystek) (2009), Integrated transport safety system, collective work, vol. I, WKŁ, Gdańsk University of Technology.
2. (collective work edited by R. Krystek) (2009), Integrated transport safety system, collective work, vol. II, WKŁ, Gdańsk University of Technology,
3. Gałusza M., Wojciechowska-Piskorska H., Uzarczyk A., (2011), OHS in transport - a guidebook, Publisher TARBONUS Sp. z o. o., Kraków-Tarnobrzeg.
4. Legal regulations regarding the issues discussed.

Additional

1. Klich E. (2010), Flight safety in air transport, Institute of Sustainable Technologies, Radom.
2. Grzegorzczak K., Buchar R. : Dangerous goods. Transport in practice. ADR 2011-2013 ed. Net Poland. Warsaw 2011.

Breakdown of average student's workload

| | Hours | ECTS |
|--|-------|------|
| Total workload | 90 | 3,0 |
| Classes requiring direct contact with the teacher | 45 | 2,0 |
| Student's own work (literature studies, preparation for tutorials, preparation for tests, project preparation)) ¹ | 45 | 1,0 |

¹ delete or add other activities as appropriate