COURSE DESCRIPTION CARD - SYLLABUS

Course name
Safe transport of dangerous goods [N2IBiJ1-BiZK>BTMN]

Course

Field of study
Safety and Quality Engineering

Year/Semester
1/2

Area of study (specialization)
Safety and Crisis Management

Profile of study
general academic

Level of study
second-cycle

Course offered in
Polish

Form of study
part-time

Requirements
elective

Number of hours

Lecture
10

Laboratory classes
0

Other
0

Tutorials
10

Projects/seminars
10

Number of credit points

4,00

Coordinators

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Lecturers

Prerequisites

Student has a basic knowledge of the issues related to the transport of hazardous materials and safety in transport. The student has the ability to obtain information from the indicated sources and is ready to actively seek, systematize and present knowledge in the field of transport safety.

Course objective

Systematization of basic knowledge related to issues related to the transport of hazardous materials and safety in transport. Presentation of the specificity of transport safety, its condition, legal standards, activities of services and institutions responsible for safety in this area, as well as the procedures and actions taken to improve transport safety. Developing the ability to solve problems occurring during the preparation and implementation of tasks related to transport safety.

Course-related learning outcomes

Knowledge:
1. Student has structured and theoretically based knowledge and knows the facts and phenomena characteristic of management and quality sciences as well as security engineering in contect of transport of dangerous goods [K2_W01].

2. Student knows in-depth development trends and good practices regarding transport safety management in organizations in local and global terms [K2_W04].
3. Student knows in-depth the principles of information flow, communication characteristic of the area of safety management of the transport of hazardous materials in the organization [K2_W15].

Skills:
1. Student is able to properly select sources, including literature, and information derived from them, as well as to evaluate, critically analyze, synthesize and creatively interpret this information, formulate conclusions and comprehensively justify the opinion during the presentation of the results in context of transport of dangerous goods [K2_U01].
2. Student is able to develop and properly apply methods and tools for solving complex problems characteristic of the area of safety and safety engineering of hazardous materials and crisis management or select and apply existing and known methods and tools [K2_U03].
3. Student is able to design selected elements of transport safety systems in organizations using properly selected means, methods and techniques [K2_U05].

Social competences:
1. Student correctly identifies and resolves dilemmas related to the broadly understood transport safety, understands the need to raise public awareness of the need to shape safety in the area of transport and transport of hazardous materials [K2_K02].
2. Student shows creativity and entrepreneurship in planning of transport of dangerous goods [K2_K04].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: The knowledge acquired during the lecture is verified by current answers (formative assessment) one 45-minute test carried out during the 4th lecture (summative assessment). The test consists of 15 to 20 questions (test and / or open-ended), with different scores. Passing threshold: 51% of points.
Tutorials: The skills acquired during the exercises are verified on the basis of the current assessment (formative assessment) of the assigned tasks and on the basis of the activity in the classroom (summative assessment). Passing threshold: 51% of points
Projects: Skills acquired during project classes are verified on the basis of partial evaluation of the progress of the project stages, project defense, final evaluation. Passing threshold: 51% of points.

Programme content

The program covers the general characteristics of transport and the characteristics of the transport of hazardous materials by air, sea and land.

Course topics

Lecture:
General characteristics of transport and its types. Transport of dangerous goods by air, sea and land. Road transport - legal regulations, statistics, organization and functioning of entities responsible for safety. Rail transport - legal regulations, statistics, organization and functioning of entities responsible for safety. Maritime and inland transport - legal regulations, statistics, organization and functioning of entities responsible for safety. Air transport - legal regulations, statistics, organization and functioning of entities responsible for security. Internal transport - legal regulations, statistics, organization and functioning of entities responsible for safety. Aspects of transport safety in national security systems.
Tutorial:
Analysis of legal regulations and scopes of competence of basic systems for the transport of hazardous materials and transport safety. Analysis of threats in particular types of transport. Risk estimation in particular modes of transport. Rules of conduct in case of adverse events in particular types of transport and tasks of entities. Safety management systems in particular modes of transport. Methods of assessing preparedness for emergency situations. Transportation of dangerous goods.
Project classes:
Analysis of a selected contemporary transport disaster related to the transport of hazardous materials, consisting of the preparation of factual data, conducting an analysis using, among others, taxonomy of causes of adverse events in a given type of transport and presentation of the implementation of safety

recommendations after the event and assessment of their effectiveness along with own recommendations.

Teaching methods

Lecture: multimedia presentation, illustrated with examples given on the blackboard.
The lecture is conducted using distance learning techniques in a synchronous mode. Acceptable platforms: eMeeting, Zoom, Microsoft Teams.
Tutorials: a multimedia presentation, illustrated with examples given on the board, constituting the basis for the implementation of the tasks given by the teacher. The class uses the classic problem method, as well as the method of cases and exercises.
Projects: multimedia presentation, illustrated with examples given on the board, constituting the basis for the implementation of the tasks given by the teacher. During the classes, the practice and design 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. Grzegorczyk K., Buchar R .: Dangerous goods. Transport in practice. ADR 2011-2013 ed. Net Poland. Warsaw 2011.
3. (collective work edited by R. Krystek) (2009), Integrated transport safety system, collective work, vol. II, WKŁ, Gdańsk University of Technology,
4. Gałusza M., Wojciechowska-Piskorska H., Uzarczyk A., (2011), OHS in transport - a guidebook, Publisher TARBONUS Sp. z o. o., Kraków-Tarnobrzeg.
5. Legal regulations regarding the issues discussed.

Additional:
1. Klich E. (2010), Flight safety in air transport, Institute of Sustainable Technologies, Radom.
2. Ewertowski T., Bienias M., Czerniak K., (2019), Preparation of an enterprise for emergency situations and their better communication, Informatyka Ekonomiczna - 2019, nr 3(53), s. 9-22
3.Ewertowski T., Błaszak D., (2018), Analiza procesów transportu wewnętrznego i magazynowania w aspekcie bezpieczeństwa w wybranym przedsiębiorstwie produkcyjnym, Systemy Logistyczne Wojsk - 2018, nr 49, s. 83-100

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,00
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)	70	3,00