COURSE DESCRIPTION CARD - SYLLABUS

Course name
Safety in transport [S1Trans1>BwT]

Course

Field of study
Transport

Year/Semester
1/1

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
15

Projects/seminars
0

Number of credit points

2,00

Coordinators

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Lecturers

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Prerequisites

KNOWLEDGE: the student has basic general knowledge about the construction of the surrounding world and the laws that govern it SKILLS: the student is able to assess the functioning of transport systems in terms of safety and draw conclusions on this basis SOCIAL COMPETENCES: the student is aware of the social and economic importance of transport safety issues

Course objective

To acquaint students with the concept of risk management in transport systems and the basic methods of safety engineering.

Course-related learning outcomes

Knowledge:
Student has ordered and theoretically founded general knowledge in the field of key issues of technology and detailed knowledge in the field of selected issues in this discipline of transport

engineering
Student knows the basic techniques, methods and tools used in the process of solving tasks in the field of transport, mainly of an engineering nature engineering

Skills:
Student is able, when formulating and solving tasks in the field of transport, to apply appropriately selected methods, including analytical, simulation or experimental methods
Student is able to assess - at least to a basic extent - various aspects of the risk associated with a transport project

Social competences:
Student is aware of the importance of knowledge in solving engineering problems and understands the impact of malfunctioning transport systems on the emergence of serious financial and social losses, or loss of health and even life
Student is aware of the social role of a technical university graduate, in particular understands the need to formulate and provide the society, in an appropriate form, with information and opinions on engineering activities, technological achievements, as well as the achievements and traditions of the profession of transport engineer

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Written exam with a lecture part and practice.

Programme content

The main issues of transport safety. Hazards to human health and life from means of transport. People"s perception of safety in transport. Risk as a measure of hazard in transport. The conceptual apparatus related to risk. General algorithm of risk management in transport. Risk management methods. Qualitative methods of risk analysis. Quantitative methods of risk analysis. Transport risk assessment. Principles of risk reduction. Hazard sources in transport and examples of their analysis.

Course topics

The course topics cover the main issues of transportation safety, including threats to human health and life, the perception of safety in transport, risk as a measure of hazards, methods of risk management, qualitative and quantitative risk analysis, risk assessment, principles of risk mitigation, and sources of hazards in transportation with examples of their analysis.

Teaching methods

Lecture: a written examination.
Practical classes: credit based on written tests.

Bibliography

Basic
Bezpieczeństwo pracy i ergonomia, część 1 i 2, pod redakcją Danuty Koradeckiej, Wyd. Centralnego Instytutu Ochrony Pracy, Warszawa 1999.
Gill, A., Warstwowe modele systemów bezpieczeństwa do zastosowań w transporcie szynowym. Wydawnictwo Politechniki Poznańskiej, Poznań, 2018.
Horst W., Ryzyko zawodowe na stanowisku pracy, część 1, Ergonomiczne czynniki ryzyka. Wydawnictwo Politechniki Poznańskiej, Poznań 2004.
Kadziński A., Studium wybranych aspektów niezawodności systemów oraz obiektów pojazdów szynowych. Wydawnictwo Politechniki Poznańskiej, Poznań 2013.
Radkowski S., Podstawy bezpiecznej techniki. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2003
Szymanek A., Bezpieczeństwo i ryzyko w technice. Wyd. Politechniki Radomskiej, Radom 2006.
Zintegrowany System Bezpieczeństwem Transportu. Tom 2. Uwarunkowania rozwoju integracji systemów bezpieczeństwa transportu. Redaktor pracy zbiorowej Krystek R., Politechnika Gdańska,

Gdańsk 2009, WKŁ, Warszawa 2009.
Additional
Borysewicz M., Potempski S., Ryzyko poważanych awarii rurociągów przesyłowych substancji niebezpiecznych. Metody oceny. Wyd. Centralnego Instytutu Ochrony Pracy ? Państwowego Instytutu Badawczego, Warszawa 2002.
Pihowicz W., Inżynieria bezpieczeństwa technicznego. Wydawnictwa Naukowo- Techniczne, Warszawa 2008.
Skuza L., Co warto wiedzieć o ryzyku zawodowym. Wyd. Ośrodka Doradztwa i Doskonalenia Kadr, Gdańsk 2003
Terelak J.F., Człowiek i stres. Oficyna Wydawnicza BRANTA, Bydgoszcz-Warszawa 2008.

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