



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Safety in rail transport

### Course

Field of study

Year/Semester

Transportation

2/3

Area of study (specialization)

Profile of study

Railway Transport

general academic

Level of study

Course offered in

Second-cycle studies

Polish

Form of study

Requirements

full-time

elective

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

15

0

0

Tutorials

Projects/seminars

15

0

### Number of credit points

2

### Lecturers

Responsible for the course/lecturer:

dr inż. Piotr Smoczyński

piotr.smoczynski@put.poznan.pl

tel: 61 6652841

Wydział Inżynierii Lądowej i Transportu

ul. Piotrowo 3, 60-965 Poznań

Responsible for the course/lecturer:

dr inż. Paweł Komorski

pawel.komorski@put.poznan.pl

tel: 61 6652012

Wydział Inżynierii Lądowej i Transportu

ul. Piotrowo 3, 60-965 Poznań

### Prerequisites

Basic computer skills and group work skills, knowledge of the organization of railway transport

### Course objective

Provide students with knowledge in the field of carrying out analyzes related to the safety of rail transport

### Course-related learning outcomes

Knowledge

The student has advanced and in-depth knowledge of transport engineering, theoretical foundations, tools and means used to solve simple engineering problems



The student knows the economic, legal and other conditions of the operation of transport companies

#### Skills

The student is able to assess the usefulness of methods and tools for solving an engineering task consisting in the construction or evaluation of the transport system or its components, including the limitations of these methods and tools

#### Social competences

The student understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems

#### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: passing the test consisting of four obligatory questions of various difficulty levels:

1. Question regarding the reconstruction of information from lectures (for 3.0)
2. The question verifying the understanding of the lecture knowledge (4.0)
3. A question verifying the ability to solve problems analogous to those discussed in the lectures (4.5)
4. Problem question, requiring supplementing the opinion based on the literature (5.0).

Students answer the questions in the order given, and the grade results from the last question to which they answered correctly.

The effects of tutorial classes are verified on an ongoing basis by the teacher

#### Programme content

Legal requirements for the process of managing the risk of hazards related to changes introduced to the railway system. Basic methods of hazard identification. Documenting the risk assessment process

#### Teaching methods

Informative and conversational lecture with the use of boards and multimedia content. Project method - independent preparation of the proof of application of the risk management process related to the change introduced in the rail transport system

#### Bibliography

##### Basic

COMMISSION IMPLEMENTING REGULATION (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009

Urząd Transportu Kolejowego, Ekspertyza dotycząca praktycznego stosowania przez podmioty sektora kolejowego wymagań wspólnej metody bezpieczeństwa w zakresie oceny ryzyka (CSM RA) opracowana w formie przewodnika (guidance in Polish - English equivalent below)



Additional

Rail Safety and Standards Board Limited, Guidance on the Common Safety Method for Risk Evaluation and Assessment, 2017

Smoczyński P., Zarządzanie bezpieczeństwem w transporcie kolejowym Unii Europejskiej, Wydawnictwo Ekslibris.eu, Poznań 2019, ISBN 978-83-953636-0-3

**Breakdown of average student's workload**

	Hours	ECTS
Total workload	60	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	30	1,0

<sup>1</sup> delete or add other activities as appropriate