

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Safety in rail transport		Code 1010612331010625331
Field of study Transport	Profile of study (general academic, practical) general academic	Year /Semester 2 / 3
Elective path/specialty Railway Transport	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 1 Classes: 1 Laboratory: - Project/seminars: -		No. of credits 1
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) university-wide
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 1 100% 1 100%
Responsible for subject / lecturer: dr inż. Piotr Smoczyński email: piotr.smoczynski@put.poznan.pl tel. +48616652841 Faculty of Transport Engineering ul. Piotrowo 3 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of basic concepts in risk management and knowledge about the functioning of rail transport
2	Skills	Analytical thinking in solving complex problems
3	Social competencies	Competence to work in groups
Assumptions and objectives of the course: The aim of the course is to prepare students for work in railway market enterprises in which safety management systems are implemented		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Has detailed knowledge in the field of technical operation, reliability and safety of systems - [K2A_W16] 2. Has detailed knowledge necessary for understanding specialist subjects and specialist knowledge about the features of rail transport - [K2A_W22]		
Skills: 1. Has the preparation necessary in an industrial environment, knows the safety rules associated with this work, can apply technical standards for unification and safety and recycling of machinery and equipment - [K2A_U08]		
Social competencies: 1. Is aware of responsibility for their own work and willingness to comply with the principles of cooperation in a team and taking responsibility for the tasks implemented jointly - [K2A_K04]		
Assessment methods of study outcomes		
Ongoing control of exercise tasks and oral exam		
Course description		
European railway regulations. History and introduction to SMS. SMS and MMS in rail transport. Supervision performed by the President of the Polish National Safety Authority. Incidents and accidents. Basics of risk management. Unsignificant and		

significant changes as per Regulation (EU) No 402/2013. Methods used in risk assessment: FMEA, HAZOP, FTA, Bow-Tie.		
Basic bibliography:		
1. Regulation (UE) 402/2013		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in lectures and classes	30	
Student's workload		
Source of workload	hours	ECTS
Total workload	30	1
Contact hours	30	1
Practical activities	0	0