



Subject card

Subject name and code	Safety management and maintenance of road infrastructure, PG_00059878						
Field of study	Civil Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Wojciech Kustra					
	Teachers	dr inż. Wojciech Kustra mgr inż. Tomasz Mackun dr inż. Bohdan Dołżycki mgr inż. Anna Gobis					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	0.0	0.0	45
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours		Self-study		SUM
	Number of study hours	45	5.0		25.0		75
Subject objectives	Familiarize students with methods of road infrastructure safety management and road pavement management.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_K05] can manage a team in a responsible way, regarding the rules of occupational safety and health	The student is able to carry out tasks in a group. Determine the division of labour and assign individual tasks to each participant in the implementation of the project. Jointly analyse the results obtained during the implementation of the task.	[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice
	[K7_W15] has deep and adequate knowledge of civil engineering, within offered specialization and profile	Student potrafi wykonać ocenę istniejącej infrastruktury drogowej z wykorzystaniem technik video oraz ocenę infrastruktury projektowanej. Student potrafi zarządzać, ocenić istniejącą nawierzchnią drogową.	[SW3] Assessment of knowledge contained in written work and projects
	[K7_U15] has advanced skills in civil engineering within offered specialization/profile	The student is able to use practically tools for road infrastructure safety management and pavement management.	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
[K7_U16] is able to estimate the technical condition of engineering object; can interpret the results of constructions and materials examination;	The student is able to use the knowledge gained to identify hazards and risks on roads and to apply corrective actions. The student is able to use the knowledge gained to identify damage to the pavement and assess its condition.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools	
Subject contents	1 General principles of road infrastructure safety management.2 Risk analysis and assessment on roads.3 Audit of project documentation.4 Safety inspection of existing roads.5 Classification of hazardous sections6 Safety impact assessment of designed road sections 7.7 Identification and classification of faults.8. Possible corrective actions.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lecture	50.0%	50.0%
	Practical	100.0%	50.0%

Recommended reading	Basic literature	<p>[1] European Parliament and the Council, <i>Directive 2019/1936 of the European Parliament and of the Council amending Directive 2008/96/EC on road infrastructure safety management</i>. 2018, p. 12. Accessed: Dec. 20, 2018. [Online]. Available: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=PI_COM:SEC(2018)226&from=LV</p> <p>[2] AASHTO, <i>Highway Safety Manual</i>. Washington: American Association of State Highway and Transportation Officials, 2010.</p> <p>[3] MTBiGM, <i>Rozporządzenie Ministra Transportu, Budownictwa i Gospodarki Morskiej z dnia 14 września 2012 r. w sprawie szkoleń oraz wzoru certyfikatu dla audytorów bezpieczeństwa ruchu drogowego</i>, vol. 8. 2012.</p> <p>[4] K. Jamroz, W. Kustra, and L. Michalski, <i>Instrukcja dla audytorów bezpieczeństwa ruchu drogowego - Część I Ocena wpływu na bezpieczeństwo ruchu drogowego projektów infrastruktury drogowej, Część II Audyt bezpieczeństwa ruchu drogowego</i>. Opracowanie na zlecenie GDDKiA, Politechnika Krakowska, Politechnika Gdańska, 2011.</p> <p>[5] K. Jamroz <i>et al.</i>, <i>Ochrona pieszych. Podręcznik dla organizatorów ruchu pieszego</i>. Warszawa: Krajowa Rada Bezpieczeństwa Ruchu Drogowego, 2014.</p> <p>[6] K. Jamroz, W. Kustra, A. Gobis, and M. Berkowski, <i>Aktualizacja Metody Oceny Ryzyka (MOR) na podstawie sieci ulic w Warszawie</i>, 2016.</p> <p>[7] K. Jamroz <i>et al.</i>, <i>Klasyfikacja ryzyka dla wybranych rodzajów wypadków drogowych na drogach wojewódzkich oraz dla obszarów województw i powiatów w latach 2015 - 2017 wraz przedstawieniem wyników na mapach</i>, Ministerstwo Infrastruktury i Rozwoju Sekretariat Krajowej Rady Bezpieczeństwa Ruchu Drogowego, 2018.</p> <p>[8] Polish National Road Safety Council, <i>Narodowy Program Bezpieczeństwa Ruchu Drogowego na lata 2014-2020 (National Road Safety Programme for 2014-2020)</i>, Polish National Road Safety Council, Warsaw, 2013.</p>
	Supplementary literature	Ministerstwo Infrastruktury - Wzorce i standardy (WiS)
	eResources addresses	Adresy na platformie eNauczanie:
	Example issues/ example questions/ tasks being completed	1 To carry out a road safety inspection in the field (Road interchange safety assessment).2. Road Safety Audit of project documentation.3 Classification of hazardous sections for the selected area.4. Review of road infrastructure safety management methods.
Work placement	Not applicable	