



## Subject card

Subject name and code	Road network planning, PG_00059877						
Field of study	Civil Engineering						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2025/2026		
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		2.0		
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. Lech Michalski				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	0.0	0.0	30
	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	30		2.0		18.0	50
Subject objectives	Getting to know the specifics of road network planning and its impact on the process of designing, building and maintaining road infrastructure, including infrastructure for pedestrians and cyclists						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U07] is able to design elements of road network, to apply the rules of traffic organisation and control, taking into account economy, safety and environmental factors,		The student is able to use computer applications used in road network planning, road network modeling, displacement modeling and road traffic forecasting.		[SU4] Assessment of ability to use methods and tools		
	[K7_U15] has advanced skills in civil engineering within offered specialization/profile		The student is able to use engineering and non-engineering tools used in planning road networks, assessing the existing condition and selecting solutions		[SU1] Assessment of task fulfilment		
	[K7_W15] has deep and adequate knowledge of civil engineering, within offered specialization and profile		The student learns the tools for planning road networks as an element of spatial policy and the construction process		[SW3] Assessment of knowledge contained in written work and projects		
	[K7_W06] has expanded knowledge about traffic theory, planing of road networks and junctions design, regarding economy, safety and environmental aspects		The student learns the process of planning the road network and its elements, the basic principles of shaping the road, bicycle and pedestrian networks, the principles of diagnosing the condition of the network, traffic forecasting, the issues of strategies, programs and plans regarding road networks.		[SW3] Assessment of knowledge contained in written work and projects		

Subject contents	The shape and structure of the network		
	Network planning principles (guidelines and recommendations)		
	Strategic planning documents		
	Transport plans (with elements of road network plans)		
	Road planning projects		
	Selected issues of street network planning		
	Forecasted road traffic		
	Four-stage road traffic model		
Prerequisites and co-requisites	The student has basic knowledge of road design, road traffic engineering, environmental protection and public finance		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	road network design	60.0%	100.0%
Recommended reading	Basic literature	Gaca S., Suchorzewski W., Tracz M.: Road traffic engineering, WKŁ  WR-D-11-1 Guidelines for shaping the road network - Basic requirements  WR-D-42-1 Guidelines for the design of bicycle infrastructure - Planning bicycle routes  WR-D-41-1 Guidelines for the design of pedestrian infrastructure - Planning of the pedestrian route network	
	Supplementary literature	Published strategies, programs and plans for the development of the road network at national, regional and local levels.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Design of a road network element with traffic forecasts made in the PTV Visum application		
Work placement	Not applicable		

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