



Subject card

Subject name and code	Technical infrastructure planning - urban engineering , PG_00049238						
Field of study	Spatial Development						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study 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	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			5.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Urban Design and Regional Planning -> Faculty of Architecture						
Name and surname of lecturer (lecturers)	Subject supervisor		Patrik Deługowski				
	Teachers		Patrik Deługowski Mariusz Gruchała				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	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	60		8.0		57.0	125
Subject objectives	Planning of technical infrastructure - municipal engineering is divided into two thematic blocks: (1) planning of transport and communication infrastructure and (2) planning of water and sewage technical infrastructure.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U01] has the ability to abstractly understand technical problems; applies basic mathematical and simulation methods in urban planning and spatial planning		Understands functional and spatial relationships between urban planning and the basic systems of urban infrastructure.		[SU5] Assessment of ability to present the results of task		
	[K6_W03] has elementary knowledge in the field of mathematics and physics relating to issues related to space management, including the basic mathematical methods used in urban design, as well as analytical and design methods using information technology used in planning processes of settlement structures		Has elementary knowledge of basic mathematical methods used in planning technical infrastructure.		[SW3] Assessment of knowledge contained in written work and projects		
[K6_W02] has basic knowledge in the fields of science and scientific disciplines, relevant to spatial management, including history and theory of architecture, construction and related engineering industries		He knows the basic terms related to the planning of transport and communication infrastructure and planning of water and sewage technical infrastructure.		[SW3] Assessment of knowledge contained in written work and projects			
Subject contents	Planning of technical infrastructure - municipal engineering is divided into two thematic blocks: (1) planning of transport and communication infrastructure and (2) planning of water and sewage technical infrastructure. The lecture cycle is supplemented with seminars. Lectures are an introduction to the issues of designing urban infrastructure, devoting a significant place to the issue of integrating the industry approach in a modern model of spatial planning. Seminar classes are dedicated to the issue of integrating theoretical knowledge with the practical dimension. They strengthen the understanding of functional and spatial relationships between urban planning and the basic systems of urban infrastructure.						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Activity in the classroom	70.0%	15.0%
	exam	70.0%	55.0%
	task	70.0%	30.0%
Recommended reading	Basic literature	<p>1. Gaca S., Suchorzewski W., Tracz M., Inżynieria ruchu drogowego. Teoria i praktyka, WKŁ</p> <p>2. Gradkowski K., Budowle urządzeń technicznych dróg i ulic, Wyd. Polit. Wa-wa</p> <p>3. Greinert A., Drozdek M. E.(red), Od promenady do autostrady. Komunikacja z naturą, Wyd: PWSZ Sulechów</p> <p>4. Młodożeniec W. S., Budowa dróg - podstawy projektowania, Wyd. BEL Studio</p> <p>5. Sieniawska-Kuras A., Budownictwo drogowe w zarysie, Wyd. KaBe Krosno</p> <p>6. Lejcuś K., Burszta-Adamiak E., Dąbrowska J., Wróblewska K., Orzeszyna H., Szpitalniak M., Misiewicz J.: Katalog dobrych praktyk zasady zrównoważonego gospodarowania wodami opadowymi pochodzącymi z nawierzchni pasów drogowych. Wrocław 2017.</p> <p>8. Wojciechowska E., Gajewska M., Żurkowska N., Surówka M., Obarska-Pempkowiak H.: Zrównoważone systemy gospodarowania wodą deszczową. Gdańsk 2015</p> <p>Wojciechowska E., Gajewska M., Matej-Łukowicz K.: Wybrane aspekty zrównoważonego gospodarowania wodami opadowymi na terenie zurbanizowanym. Gdańsk 2016</p> <p>9. Łyp B.: Infrastruktura wodno-ściekowa w planowaniu miast, WKŁ</p> <p>10. Geiger W. i Dreiseitl H.: Nowe sposoby odprowadzania wód deszczowych. Poradnik Proj-przem-EKO</p>	
	Supplementary literature	<p>1. Strzelczyk R. Prawo Nieruchomości (wydanie najnowsze), C.H. Beck</p> <p>2. Bach Głowińska J. Inteligentna Przestrzeń, Oficyna 2014,</p> <p>3. Aktualne komentarze do ustaw wskazanych w podstawowej liście lektur udostępnionych przez bibliotekę Politechniki Gdańskiej w programie Legalis.</p> <p>4. Dolnicki B. Samorząd Terytorialny, WoltersKluwer, (wydanie najnowsze)</p> <p>5. Śleszyńska E. Obowiązki Właścicieli Obiektów Budowlanych oraz inwestorów WoltersKluwer (wydanie najnowsze)</p> <p>6. Wierzbowski B. Rakoczy B. Prawo Ochrony środowiska zagadnienia podstawowe, Wolterskluwer (wydanie najnowsze)</p>	
	eResources addresses		

<p>Example issues/ example questions/ tasks being completed</p>	<p>(1) Planning of the Communication Infrastructure: 1.basic conditions and principles of planning and designing transport and communication systems (technical, legal and organizational dimensions), 2.coordination of planning works in the context of the development of technical and road infrastructure networks, 3.the impact of formal and legal conditions and technical norms on the planning of the road and transport network, 4. principles of building a public transport system in connection with the development of bicycle and pedestrian traffic 5. the impact of EU standards in the field of "civil society" on the socialization of planning road and transport solutions, 6.development of the transport network (road and rail) in relation to other urban infrastructure systems in the context of socio-economic issues 7. the importance of integrated spatial planning in the harmonious development of urban areas. The seminar part develops the following slogans: City-forming role of Transport, Integration nodes, City parking systems, Bridge routes in the city landscape. (2) Planning of Water and Sewage Technical Infrastructure: 1. Rainwater - an element of city shaping and its impact, 2. Flooding in populated areas as a consequence of urbanization, 3. Water protection and water and sewage management, 4. Water supply management in urban infrastructure, 5. Heating and gas networks - location, parameters, technical conditions, 6. Geology and hydrology - planning basics and assumptions.</p>
<p>Work placement</p>	<p>Not applicable</p>