

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Urban and road engineering, PG_00055725							
Field of study	Architecture							
Date of commencement of studies	October 2022		Academic year of realisation of subject			2024/2025		
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	3		Language of instruction		Polish Polish.			
Semester of study	6		ECTS credits		2.0			
Learning profile	general academic profile		Assessment form		assessment			
Conducting unit	Department of Urban Design and Regional Planning -> Faculty of Architecture							
Name and surname	Subject supervisor Teachers		prof. dr hab. inż. arch. Piotr Lorens					
of lecturer (lecturers)			dr inż. arch. Piotr Smolnicki					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0		0.0	30
	E-learning hours inclu	uded: 0.0				-		
Learning activity and number of study hours	Learning activity Participation in dida classes included in plan		n didactic ed in study	Participation in consultation hours		Self-study		SUM
	Number of study hours	nber of study 30 rs		2.0		18.0		50
Subject objectives	The aim of the lectures is to prepare students for professional understanding and discussion skills in the field of urban and road engineering. In connection with the above, the didactic result of the lectures is the acquisition by students of the necessary knowledge needed for the correct use of specialist terms, understanding the relationship between specific needs, applied solutions and achieved effects.							
Learning outcomes	Course outcome		Subject outcome			Method of verification		
	[K6_U01] is able to use the experience gained during studies to critically analyze the conditions and formulate conclusions for design in an interdisciplinary context		Gaining by students the necessary knowledge needed to correctly understand the relationship between specific needs, applied solutions and achieved effects in the field of urban and road engineering.			[SU2] Assessment of ability to analyse information		
	[K6_W01] knows and understands construction problems, building and engineering issues related to building design; principles, solutions, constructions and building materials used in simple engineering tasks in the field of architectural and urban design		Gaining by students the necessary knowledge needed for the correct use of specialist terms in the field of urban and road engineering.			[SW2] Assessment of knowledge contained in presentation		

Subject contents					
	Selected topics:				
	 a brief history of the creation and development of a modern street as a road for vehicular traffic; presentation, comparison and explanation of basic concepts; review and explanation of the meaning of international, national and local documents; principles of universal design; approach to the design process; discussion of important components of engineering projects: lighting, greenery, water management, parking; traffic management measures, such as traffic calming; relations between the intensity of development and transport infrastructure; discussion of key principles and paradoxes and non-intuitive laws related to transport infrastructure. 				
Prerequisites					
Assessment methods	Subject passing criteria	Dessing threshold	Dereentage of the final grade		
and criteria	The way of presenting the	60.0%	100.0%		
	selected topic.				
Recommended reading	Basic literature	Basic literature:			
		Appleyard, D., Lintell, M., & Gerson, M. S. (1981). <i>Livable streets.</i> Berkeley: University of California Press.			
		Appleyard, D., Lynch, K., & Myer, J. R. (1971). <i>The View from the Road</i> (3rd printing). Cambridge [MA]: The Massachusetts Institute Technology.			
		Gehl, J. (2010). <i>Cities for people</i> . Washington (DC), Covelo, London: Island Press.			
		Gehl, J. (2010). <i>Life between buildi</i> i issue). København: The Danish Arc	ngs: Using public space (6. ed., 2. chitectural Press.		
		Jacobs, J. (2002). <i>The death and life of great American cities</i> . New York: Random House (Original work published 1961).			
		Montgomery, C. (2013). <i>Happy city: Transforming our lives through urban design</i> (Kindle edition; Reprint edition (November 12, 2013)). New York: Farrar, Straus and Giroux.			
		Sadik-Khan, J., & Solomonow, S. (2 <i>Urban Revolution</i> (Kindle Edition): \	2016). Streetfight: Handbook for an /iking.		
		Schwartz, S. I. (2015). Street smart (First edition; eBook; Kindle Editior	: <i>The rise of cities and the fall of cars</i> n). New York: Public Affairs.		
		Shoup, D. C. (2011). <i>The High Cos</i> Chicago, Washington: American Pla published 2005).	t of Free Parking (Updated.). anning Association (Original work		

Supplementary literature	Additional literature:
	Abiko, A. (2010). Urban Engineering: Concepts and Challenges. In Pina Filho, Armando Carlos de & A. C. d. Pina (Eds.), <i>Methods and</i> <i>Techniques in Urban Engineering</i> . InTech. Retrieved from https:// edisciplinas.usp.br/pluginfile.php/5529410/mod_resource/content/1/ UrbanEngineering.pdf
	Bain, B. (2001). City and Regional Planning. In P. Finkelman (Ed.), Encyclopedia of the United States in the nineteenth century (pp. 217219). New York: Charles Scribner's Sons.
	Benevolo, L. (1995). <i>Miasto w dziejach Europy. Tworzenie Europy.</i> Warszawa: Krąg; Volumen (Original work published 1993).
	Berg, N. (2013). Citizens as sensors: Our cities are talking, and were talking back. In S. Mathis & J. Cary (Eds.), <i>TED Books. City 2.0: The Habitat of the Future and How to Get There</i> (423463). Ted Conferences.
	Braess, D. (2005). On a Paradox of Traffic Planning. <i>Transportation Science</i> , <i>39</i> (4), 446450. https://doi.org/10.1287/trsc.1050.0127
	City of Vancouver (2023, February 26). Urban planning, sustainable zoning, and development. Retrieved from https://vancouver.ca/home- property-development/planning-zoning-development.aspx
	Downs, A. (2004). <i>Still stuck in traffic: Coping with peak-hour traffic congestion</i> (Rev. ed.). <i>James A. Johnson Metro Series</i> . Washington, D.C., Great Britain: Brookings Institution (Original work published 1992).
	Economic Commission for Europe, Inland Transport Committee, Working Party on Road Traffic Safety (2016). <i>Automated driving</i> (Convention on Road Traffic (1968) No. Item 3 (c) of the provisional agenda). Geneva.
	Gore, A., Jr. (2013). <i>The Future: Six Drivers of Global Change</i> (First Edition). New York: Random House.
	Greenfield, A. (2015, November). <i>Transforming Cities: Implications for an Urban Age</i> . MIT Media Lab. Disrupting Mobility Summit, Media Lab Building, Cambridge, MA. Retrieved from https://youtu.be/ 30WjmQ0YU9I?list=PLFPx70Od9XB71TyGyWw-MwR-s6fAsKRI0
	Heck, S., & Rogers, M. (2014). <i>Resource Revolution: How to Capture the Biggest Business Opportunity in a Century</i> (Kindle). Seattle: Amazon Publishing.
	Jałowiecki, B., & Szczepański, M. S. (2006). <i>Miasto i przestrzeń w perspektywie socjologicznej</i> (2 (revisited)). <i>Wykłady z socjologii: Vol. 4.</i> Warszawa: Wydawnictwo Naukowe Scholar.
	Jevons, W. S. (1866). <i>The Coal Question: An Inquiry Concerning the</i> <i>Progress of the Nation, and the Probable Exhaustion of Our Coal-Mines</i> . London: Macmillan and Co. (Original work published 1865). Retrieved from http://lf-oll.s3.amazonaws.com/titles/317/0546_Bk.pdf
	La Peña, B. d. (2013). The autocatalytic city Bottom-up growth, driven by citizens, trumps central command. In S. Mathis & J. Cary (Eds.), <i>TED Books. City 2.0: The Habitat of the Future and How to Get There</i> (pp. 9971105). Ted Conferences.
	Leeming, J. J. (2007). Road accidents: Prevent or punish?

Commendation by Lord Montagu of Beaulieu (reprint). Oswestry: Quinta Press (Original work published 1969).
Rozporządzenie Ministra Infrastruktury z dnia 24 czerwca 2022 r. w sprawie przepisów techniczno-budowlanych dotyczących dróg publicznych, <i>Dz.U.</i> (2022).
Monroe, E. B. (2001). Civil Engineering [Entry]: Bridges and Tunels [Subentry]. In P. Finkelman (Ed.), <i>Encyclopedia of the United States in the nineteenth century</i> (pp. 222228). New York: Charles Scribner's Sons.
Mumford, L. (1956). Restored Circulation, Renewed Life. In A Harvest book: Vol. 13. From the ground up: Observations on contemporary architecture, housing, highway building, and civic design (pp. 219229). New York: Harcourt, Brace, and Company (Original work published 1947).
Mumford, L. (1961). The city in history: Its origins, its transformations, and its prospects. A Harvest/HBJ book. New York: Harcourt Brace Jovanovich.
Mumford, L. (2010). <i>Technics and civilization</i> . Chicago: University of Chicago Press (Original work published 1934).
Nash, B. (2005). <i>Car Tech of the Future</i> . History Channel: Cambou, Don. Retrieved from https://www.youtube.com/watch?v=IZZGpMjJr4A
OECD (2007). <i>Glossary of statistical terms</i> . Retrieved from https:// stats.oecd.org/glossary/index.htm
O'Toole, R. (2011). Using Markets to Enhance Mobility. In J. Kuznicki (Ed.), Cato Unbound. There Ain't No Such Thing as Free Parking (Cato Unbound Book 42011) (331399). Cato Institute.
PÅlsson, K. (2023). Urban block cities: 10 Design Principles for Contemporary Planning. Berlin: DOM publishers.
Papandreou, T. (2015, November). <i>Mobility and the Sharing Economy</i> . MIT Media Lab. Disrupting Mobility Summit, Media Lab Building, Cambridge, MA. Retrieved from https://youtu.be/pZZyYMMBNHs? list=PLFPx70Od9XB71TyGyWw-MwR-s6fAsKRI0
Peltzman, S. (1975, August). The Effects of Automobile Safety Regulation. <i>Journal of Political Economy</i> , <i>83</i> (4), 677726. Retrieved from http://www.jstor.org/stable/1830396
Poradnik projektowania uniwersalnego, <i>Zbiór zarządzeń Prezydenta Miasta Gdańska</i> (2021).
Reichard, D. A. (2001). Cities and Urbanization. In P. Finkelman (Ed.), Encyclopedia of the United States in the nineteenth century (pp. 209217). New York: Charles Scribner's Sons.
Sadik-Khan, J. (2015, November). <i>Transforming Cities: Implications for an Urban Age</i> . MIT Media Lab. Disrupting Mobility Summit, Media Lab Building, Cambridge, MA. Retrieved from https://youtu.be/ 3oWjmQ0YU9I?list=PLFPx70Od9XB71TyGyWw-MwR-s6fAsKRI0
Salomon, A. (2018). <i>Ekonomiczne i pozaekonomiczne determinanty działalności transportowej: Wykład 02</i> . Ekonomika transportu, Gdynia. Retrieved from http://www.akademor.webd.pl/download/ET_w02.pdf

		 Ustawa z dnia 21 marca 1985 r. o drogach publicznych. Ustawa z dnia 19 lipca 2019 r. o zapewnieniu dostępności osobom ze szczególnymi potrzebami, <i>Dz.U.</i> (2019). Smolnicki, P. M. (2017). Mobility Oriented Development (MOD): Public-Private Partnership in Urban Parking & Traffic Management with the Use of Autonomous Automobiles, Car-sharing, Ridesharing Modes of Transport & Mobility as a Service (MaaS). In P. Golinska (Series Ed.) & A. Brdulak & H. Brdulak (Vol. Eds.), <i>EcoProduction: Environmental Issues in Logistics and Manufacturing. Happy City: How to plan and create the best livable area for the people (1st ed., pp. 207220).</i> Springer International Publishing. https://doi.org/10.1007/978-3-319-49899-7_12 Solnit, R. (2001). <i>Wanderlust: A history of walking. Always Learning.</i> London: Penguin Books. Sterling, B. (2014). <i>The Epic Struggle of the Internet of Things:</i> Strelka Press. Thorson, J. W. (1972). <i>Methods of Traffic Limitation in Urban Areas</i> (No. No. 3 Work Paper). Thoreau, H. D. (1985). Walden; or Life in the Woods. In R. F. Sayre (Ed.), <i>The Library of America Series: Vol. 28. A Week, Walden, The Maine Woods, Cape Cod</i> (6th ed., pp. 321587). New York: The Library of America (Original work published 1854). 	
		Wysocki, M. (2015). Przestrzeń publiczna przyjazna seniorom. Poradnik RPO. Warszawa: Biuro Rzecznika Praw Obywatelskich.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	- Exemplary examples of metropolitan transport systems (city bikes, metropolitan railway, buses and trams) Methods of traffic calming (Woonerf, pedestrian traffic prioritization) From the construction to the demolition of road flyovers - examples from around the world Paradoxes and non-intuitive laws in transport Bikesharing, carsharing and ridesharing - pros and cons for the transport system Autonomous vehicles (personal, rented or collective) - opportunities and threats resulting from the use of various solutions On- street parking spaces and car parks (surface, cubature) - explanation of good and bad uses.		
Work placement	Not applicable		

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