



## Subject card

Subject name and code	Systems theory, PG_00053604						
Field of study	Spatial Development						
Date of commencement of studies	February 2024	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group			Obligatory subject group in the field of study Humanistic-social subject group		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	1	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 of lecturer (lecturers)	Subject supervisor		prof. dr hab. Elżbieta Wojnicka-Sycz				
	Teachers		prof. dr hab. Elżbieta Wojnicka-Sycz				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15		2.0		33.0	50
Subject objectives	The aim of the module is to familiarize students with the system approach to the description of complex processes and structures and to explain the basic concepts of system theory, including the city as a system.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K7_W04	Has in-depth knowledge of issues and technical systems related to the planning, design and implementation of infrastructure projects once with the life cycle of objects and systems.			[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		
	K7_W02	Has the knowledge necessary to understand social, economic, legal and other non-technical conditions of design and planning activities and to take them into account in practice related to spatial management.			[SW1] Assessment of factual knowledge		
	K7_K01	Critically assesses the received content, understands the importance of knowledge in solving cognitive and practical problems, performs risk assessment and is able to assess the effects of performed activities.			[SK1] Assessment of group work skills		
Subject contents	1. The genesis of the system approach, system versus mechanistic approach. 2. The concept of the system, their types and features; system and object and model. 3. System analysis and its application. 4. Systems engineering: system life cycle, indicator analysis, model creation and types, decision theory regarding the selection of system variants. 5. Spatial management and the city as a system.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Preparation of a project of a city system in groups		51.0%		100.0%		

Recommended reading	Basic literature	<ul style="list-style-type: none"> <li>• J.Habr, J.Veperek, Systemowa analiza i synteza, PWE, Warszawa, 1976</li> <li>• Cempel C., Teoria i inżynieria systemów, skrypt elektroniczny, neur.am.put.poznan.pl</li> <li>Wojnicka-Sycz E. Paradygmat systemowy w innowacyjności - geneza, ewoluja i ocena, rozdział 1 Teoria systemów - fragmenty monografii udostępniane studentom, monografia w recenzji.</li> <li>• Boordman J., Systems Engineering - An Introduction. Prentice Hall, New York, 1990.</li> <li>• Boyd D. W., System Analysis and Modeling, a Macro to Micro Approach with Multidisciplinary Applications. Academic Press, New York, 2001.</li> <li>• Klaassen J. H., Paelinck J. H. P., Wagenaar S., Systemy przestrzenne. PWN, Warszawa, 1982.</li> <li>• Parysek J.J., Miasto w ujęciu systemowym. [w:] Ruch prawniczy, ekonomiczny i socjologiczny, Rok LXXVII – zeszyt 1, s. 27-53, 2015.</li> <li>• Rappaport A., General Systems Theory. Abacus Press, Cambridge 1986.</li> </ul>
	Supplementary literature	<ul style="list-style-type: none"> <li>• Austin G., Green Infrastructure for Landscape Planning. Integrating human and natural systems. Routledge, London, 2014.</li> <li>• Coveney P., Highfield R., Granice złożoności – poszukiwanie porządku w chaotycznym świecie. Pruszyński i S-ka, Warszawa, 1997.</li> <li>• Heller M., Lubański M., Słaga S. W., Zagadnienia filozoficzne współczesnej nauki – wstęp do filozofii przyrody. Akademia Teologii Katolickiej, Warszawa, 1982.</li> <li>• Jacyna M., Wybrane zagadnienia modelowania systemów transportowych. Oficyna Wydawnicza PW, Warszawa, 2009.</li> <li>• Malisz B., Zarys teorii kształtowania układów osadniczych. Wyd. 2, Arkady, Warszawa, 1981.</li> </ul>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> <li>1. Spatial management / city as a system.</li> <li>2. System definition of organization</li> <li>3. City bike system design etc.</li> </ol>	
Work placement	Not applicable	