University of Gdańsk

Subject card

Subject name and code	System analysis in spatial management, PG_00201363		
Field of study	Spatial Management		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's 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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	3.0
Learning profile	academic	Assessment form	exam
Conducting unit	Division of Spatial Studies -> Institute of Socio-Economic Geography and Spatial Management -> Faculty of Social Sciences -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Grażyna Chaberek-Kałużniak	
	Teachers	dr Grażyna Chaberek-Kałużniak dr Julia Ziółkowska	

Lesson types	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	7.0	23.0	75

Subject objectives	
	To acquire the ability to perceive the surrounding world as a set of complex and dynamic human systems and human organisations that are interrelated and conditioned by each other, as well as the ability to interpret spatial phenomena in accordance with the methodology of systems thinking, including organisation and management.The practical aim of the course is the ability to conduct a system analysis and synthesis on the example of a selected spatial system and analysis of managerial functions in spatial systems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GPMU2_W01] recognises an in-depth degree, the interdisciplinary nature of spatial management and has ordered and theoretically founded knowledge of multidimensional approaches in spatial policy	defines elements of space as components of a system, the study of which requires a complex interdisciplinary approach	[SW5] implementation of a problem task
[GPMU2_U09] can independently plan own professional or scientific career and guide others in this respect	builds examples of strategic business and individual goals according to the SMART technique	[SU4] test/exam - oral or written [SU5] implementation of a problem task
[GPMU2_U05] formulates and tests hypotheses regarding determinants (natural, social, economic, cultural, legal) of spatial management	Identifies the determinants of economic activity development in a given area and its impact on the level of land use	[SU4] test/exam - oral or written [SU5] implementation of a problem task
[GPMU2_U02] properly selects sources and information derived from them, with particular regard to sources of spatial information, evaluates them critically and interprets them creatively	build spatial interaction models and, on their basis, analyse the causes and effects of the interaction of different factors on spatial systems	[SU5] implementation of a problem task [SU8] observation of student's independent or team work
[GPMU2_K03] is ready to initiate and organise activities for the benefit of society and environmental protection of the region, country and Europe in cooperation with various entities and authorities at various levels	proposes model linkages of spatial problems with particular attention to economic, social and environmental conflicts in accordance with the latest knowledge of spatial management	[SK5] implementation of a problem task
[GPMU2_W07] knows basic principles for creating and developing forms of individual entrepreneurship that make use of knowledge in the field of spatial management and corporate social responsibility, with particular emphasis on responsibility for environmental impact	Understands the procedure for the formation of individual forms of entrepreneurship, the business objectives of the organisation and identifies the conditions for their realisation	[SW4] test/exam - oral or written [SW5] implementation of a problem task
[GPMU2_W03] understands to a deeper extent, the conditions (natural, social, economic, cultural, legal) of processes taking place in spatial management, with particular emphasis on the specifics of Polish maritime areas and voivodships of northern Poland	Recognises types of social organisations, defines their function in the process of shaping space	[SW4] test/exam - oral or written [SW5] implementation of a problem task

Subject contents

Lecture topics:A 1: Seeing the world anew - systems thinkingA 2: Systems and systems - fundamentals of systems theoryA3: Systems analysis and synthesisA 4: Systems modellingA 5: Process modellingA 6: Systems life-cycle and assessmentA 7: Systems behaviourA 8: Organisations as systemsA: Control and regulation Management as a type of controlA 10: Managerial functions, part 1A 11: Managerial functions, part 2A 12: Managerial functions, part 2A 13: Spatial territorial units as systemsA 14: Management in local government unitsA 15: Engineering contemporary systems - case studyB. Probelmatics of exercisesB 1: Agility and responsibility (proactivity)B 2: Organised action cycle (objectives and planning tools)B 3: Thinking mapsB 4: Project (process) model - Gantt chartB 5: Organisational structure modelsB6: ARIS process model

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
open and closed questions test	51.0%	50.0%
case study	51.0%	50.0%

Recommended reading	Basic literature	Bertalanffy L. von, 1984, Ogólna teoria systemów: podstawy, rozwój, zastosowania, Państwowe Wydawnictwo Naukowe, Warszawa.Klaassen J. H., Paelinck J. H. P., Wagenaar S., 1982, Systemy przestrzenne, Państwowe Wydawnictwo Naukowe, Warszawa.Chaberek-Karwacka G., 2012, Logistyka w regionalnej polityce lokalizacyjnej, Wyd. Uniwersytetu Gdańskiego, GdańskKarwacka G., 2009, The Influence of Logistics System Life Cycle on the Sustainable Development, w. Book of Proceeding from the 5th InternationalConference: Environmental Accounting Sustainable Development Indicators 2009. Usti and Labem: J. E. Purkyne University in Usti and Labem, s.93.Chaberek-Karwacka, G., 2019, Streets as Factors for and Barriers to Cities in Sustaining Development: A Comparison of Gothenburg and Gdansk,in. Sharma, Vishwa Raj, Chandrakanta (Eds.), Making Cities Resilient, Springer, ISBN 978-3-319-94932-1Chaberek-Karwacka G, 2018, Organizational and infrastructural solutions in creating competitive advantage of sustainable urban transport Gdańskcase study, Miscellanea Geographica Regional Studies on Development, Vol. 22 No. 4 DOI: 10.2478/mgrsd-2018-0029Chaberek-Karwacka G., Brdulak A. 2018, Kultura organizacyjna start-upów jako narzędzie rozwoju zrównoważonego miast, w: Bujak A., Topolska K.,Kolasińska-Morawska, K. (red.) Logistyka w naukach o zrządzaniu, część 1. Przedsiębiorczość i zarządzanie, XIX (11) cz. 3, Warszawa-Łódź:Wydawnictwo SAN, 325-337Czerniński. M. Czerska, D. Nogalski, R. Rutka, J. Apanowicz: Zarządzanie organizacjami. TNOiK, Toruń 2002M. Czerska: Organizacja przedsiębiorstw. Metodologia zmian organizacyjnych, Wyd.U.G.I996R.W. Griffin: Podstawy organizacji i zarządzania, Wyd. Naukowe PWN, Warszawa 1996Karwacka G, Chaberek M.: Logistyka jako praktyczne urzeczywistnienie prakseologicznych zasad dobrej roboty. [w:] Ekonomia XL, NaukiHumanistyczno-społeczne, zeszyt 391, Toruń 2009, s. 7-17. Parysek, J. J. (2024). *Rozdział 18 O systemowym podejściu w geografii społeczno-ekonomicznej i gospodarce przestrzennej*. Polska Akademia Nauk, Komitet Przestrzennego Zagospodarowania Kraju. http://publikacje.pan.pl/Content/133365/KPZK-studia-25-18.pdf
	Supplementary literature	Chojnicki Z., 1999, Problemy metodologiczne Regional Science [w:] Z. Chojnicki, Podstawy metodologiczne i teoretyczne geografii, Boguckiwydawnictwo Naukowe, Poznań, s. 104414.Kulikowski R., 1977, Analiza systemowa i jej zastosowanie. Modelowanie środowiska, zarządzanie i planowanie rozwoju kraju, PaństwoweWydawnictwo Naukowe, Warszawa.Laszlo E., 1978, systemowy obraz świata, Seria: ±, Państwowy Instytut Wydawniczy, WarszawaKaczorowska A., Jaan-Henrika K., Kronenberg J., Dagmar H., 2016, Ecosystem services in urban land use planning: Integration challenges incomplex urban settingsCase of Stockholm, Ecosystem Services, Volume 22, Part A, 204-212James A.F. Stoner, Edward Freeman, Daniel R. Gilberth: Kierowanie, PWE 1999 (wyd. II)AK. Koźmiński, W. Piotrowski (red.): Zarządzanie - teoria i praktyka, PWN, Warszawa 1995Strategor: Zarządzanie formą. Strategie, struktury, decyzje, tożsamość, PWE, Warszawa 1995R. Rutka: Organizacja przedsiębiorstw. Przedmiot projektowania, Wyd.U.G.1996H. Steinemann, G.Schreyogg: Zarządzanie, Wyd. Polit. Wrocławskiej 1992 lub 1998R. A. Webber: Zasady zarządzania organizacjami, PWE 1984Chaberek-Karwacka G, 2018, Organizational and infrastructural solutions in creating competitive advantage of sustainable urban transport Gdańskcase study, Miscellanea Geographica Regional Studies on Development, Vol. 22 No. 4 DOI: 10.2478/mgrsd-2018-0029Chaberek-Karwacka G., Brdulak A. 2018, Kultura organizacyjna start-upów jako narzędzie rozwoju zrównoważonego miast, w: Bujak A., Topolska K.,Kolasińska-Morawska, K. (red.) Logistyka w naukach o zrządzaniu, część 1. Przedsiębiorczość i zarządzanie, XIX (11) cz. 3, Warszawa-Łódź:Wydawnictwo SAN, 325-337
	eResources addresses	
Example issues/ example questions/ tasks being completed	Pre-screening of a randomly assigned model using a specific example	
Work placement	Not applicable	

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