

Subject card

Subject name and code	Social Network Analysis, PG_00157353						
Field of study	Informatics and Econometrics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026		
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	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Statistics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Kamila Migdał-Najman				
	Teachers		dr hab. Krzysztof Najman mgr Katarzyna Raca				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	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		15.0		20.0	50
Subject objectives	To introduce students to the essence, analysis, visualization and empirical applications of social networks.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[liEMU2_W05] The student has an in-depth knowledge of socio-economic data sources, their databases and how to create them.	The student knows the sources and methods of searching for secondary data used in social research using social network analysis methods.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report
	[liEMU2_K04] The student can work in a team, co-create it, effectively manage and supervise it; efficiently adapts his behavior and conduct to his role in it; is ready to take responsibility for the team and bear the consequences; understands the necessity of systematicity and consistency in action; is open to other team members and critical of himself.	Student is able to work responsibly in a team, perform various roles in it, critically evaluate his/her own work and that of other team members.	[SK2] presentation/project/paper/report
	[liEMU2_K02] The student can communicate freely with the public on specialised topics in the field of computer science and econometrics in and outside the workplace, communicate his knowledge and share his skills through various media. Culturally participates in discussions, is not afraid to ask questions and knows how to give constructive criticism.	The student is able to discuss, communicate and share knowledge in the theory and practice of applying social network analysis methods.	[SK1] oral statement/conversation/discussion [SK2] presentation/project/paper/report
	[liEMU2_U02] The student is able to proficiently acquire detailed information about economic processes and phenomena through direct observation, planned experimentation or database queries, as well as collect and process it using modern information technology tools.	The student is able to collect statistical data from primary and secondary sources for the purposes of conducting social research using social network analysis methods.	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report
	[liEMU2_K01] The student understands the need for continuous completion and deepening of acquired knowledge. The student inspires and organizes others' learning processes.	The student understands the need to constantly update knowledge in the field of social network analysis.	[SK1] oral statement/conversation/discussion [SK2] presentation/project/paper/report
	[liEMU2_W04] The student has an in-depth knowledge of advanced mathematical, statistical, econometric and IT methods that enable the acquisition, processing and analysis of data reflecting the functioning and growth of the national economy and its components, as well as the phenomena and processes occurring in their environment.	The student has in-depth knowledge of advanced methods used in the analysis of social networks.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report
	[liEMU2_K03] The student is able to communicate freely with the public inside and outside the workplace, transfer his knowledge and share his skills through various media.	The student is able to communicate and transfer knowledge and skills in the field of social network analysis.	[SK1] oral statement/conversation/discussion [SK2] presentation/project/paper/report [SK4] test/exam - oral or written

Subject contents	1. Social relations and social network.		
	2. Introduction to graph theory.		
	3. Social network as a graph.		
	4. Data construction for social network analysis.		
	5. Social network analysis.		
	6. Visualization of social networks.		
	7. Analysis of social networks on selected examples.		
Prerequisites and co-requisites	Basic knowledge of linear algebra, statistics, multivariate statistical analysis. Basic programming skills in R and Python.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	final project	51.0%	50.0%
	final exam	51.0%	50.0%
Recommended reading	Basic literature	S. Wasserman, K. Faust, Social Network Analysis: Methods and Applications, vol. 8 of Structural analysis in the social sciences, Cambridge University Press, 1994.	
		R. A. Hanneman, M. Riddle, Introduction to social network methods. Riverside, CA: University of California, Riverside, 2005.	
		P.J. Carrington, J. Scott, S. Wasserman (eds.), Models and Methods in Social Network Analysis. Cambridge University Press, 2005.	
		M. Kamola, P. Arabas, Sieci społeczne i technologiczne. Jak zrozumieć, jak wykorzystać, wyd. PWN, 2018	
		M. A. Russell, M. Klassen, Data mining. Eksploracja danych w sieciach społecznościowych, wyd. Helion, 2019	
	Supplementary literature	W. de Nooy, A. Mrvar, V. Batagelj, Exploratory Network Analysis with Pajek, Cambridge University Press, 2005.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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