University of Gdańsk

Subject card

Subject name and code	Data Management, PG_00178699		
Field of study	Informatics and Econometrics		
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	part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	6.0
Learning profile	academic	Assessment form	credit
Conducting unit	Department of Statistics -> Faculty of Management -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Arkadiusz Kozłowski	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	16.0	0.0	16.0	0.0	0.0	32

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	32	2.0	116.0	150

Subject objectives

The aim of the course is to familiarize students with the R and Python programming languages and to gain knowledge and skills regarding the preparation and initial exploration of statistical data.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[IiEMU2_W05] Possesses advanced knowledge and understanding of informatics, statistics, and econometrics techniques and tools used to acquire, process, or visualise data to aid in decision-making and verify research hypotheses	The student knows types of statistical data, understands typical problems related to data preparation, such as missing data, outliers.	[SW2] presentation/project/paper/ report
[IiEMU2_U03] Is able to obtain and verify data from properly selected sources and to collect, process, and visualize it using modern econometrics, informatics or statistics tools	The student is able to analyze data from various sources and in different forms. They can create a graphical representation of distributions and relationships between variables.	[SU2] presentation/project/paper/ report
[IiEMU2_W02] Comprehends advanced theoretical and practical concepts in econometrics, informatics, or statistics, which are essential for a deeper understanding of economic and social phenomena	Student knows and understands cocnepts related to data analysis.	[SW2] presentation/project/paper/ report
[IiEMU2_U01] Can creatively and profoundly analyze complex social and economic processes using structured knowledge, econometrics, informatics, or statistics tools	The student is able to critically evaluate the quality of statistical data and improve its usability.	[SU2] presentation/project/paper/ report

<table>
<tr><td>Subject contents</td><td>• Quality of statistical data
• R programming language
• Python programming language
• Preparing data for analysis
• Data visualization</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td>
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<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Project</td><td>51.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>1. Wilke C.O., Fundamentals of Data Visualization, 2019, https://clauswilke.com/dataviz/.
2. Wickham H., Navarro D., Pedersen T.L., ggplot2: Elegant Graphics for Data Analysis (3e), 2025, https://ggplot2-book.org/.
3. Venables W. N., Smith D. M., R Core Team, An Introduction to R, cran.r-project.org.</td></tr>
<tr><td>Supplementary literature</td><td>1. Pieniążek M., and Zych M., Mapy statystyczne, opracowanie i prezentacja danych, GUS, Warszawa 2017.
2. Rao C.R., Statystyka i prawda, Wydawnictwo Naukowe PWN, Warszawa 1994.
3. Kordos J., Jakość danych statystycznych, PWE, Warszawa 1988.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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