

Subject card

Subject name and code	Spreadsheet in Finances and Management, PG_00170022						
Field of study	Economics						
Date of commencement of studies	October 2025		Academic year of realisation of subject			2027/2028	
Education level	Bachelor's studies		Subject group			Obligatory subject group 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	
Semester of study	5		ECTS credits			1.0	
Learning profile	academic		Assessment form			credit	
Conducting unit	Department of Transport Economics -> Faculty of Economics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Przemysław Borkowski				
	Teachers						
Lesson types	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		5.0		5.0	25
Subject objectives	Acquisition of skills in using financial and economic functions in Excel. Acquisition of skills in conducting economic analyses using spreadsheets. Acquisition of skills in solving complex economic problems using macros and programmable functions.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[EKONL3_U08] has the ability to observe, understand and analyse economic and social phenomena and processes using appropriate scientific methods	He/she can analyze investment processes using spreadsheets, examine efficiency, liquidity, profitability, and apply spreadsheets in evaluating the financial reporting of companies.	[SU4] test/exam - oral or written [SU5] implementation of a problem task [SU8] observation of student's independent or team work
	[EKONL3_W06] have an advanced knowledge of selected methods and tools, including statistical and econometric techniques, for describing economic agents and structures as well as social institutions and the processes taking place in them	He/she uses spreadsheets for collecting and analyzing economic data. He/she can utilize statistical and analytical functions of spreadsheet software.	[SW4] test/exam - oral or written [SW5] implementation of a problem task
	[EKONL3_K05] correctly identifies, diagnoses and resolves professional dilemmas and different options for solutions	He/she can find alternative analytical solutions. He/she can interchangeably use functions, formulas, and macro definitions.	[SK4] test/exam - oral or written [SK5] implementation of a problem task [SK6] demonstration of practical skills
	[EKONL3_U07] is able to participate in analyses and evaluations of alternative solutions to economic and social problems and to choose the methods and instruments to resolve them rationally	He/she can use a variety of spreadsheet tools: functions, formulas, macros, and analytical packages, selecting the appropriate tools to solve specific problems.	[SU4] test/exam - oral or written [SU5] implementation of a problem task [SU8] observation of student's independent or team work
	[EKONL3_K03] participates in the preparation of economic and social projects, being able to reconcile legal, economic, ecological, political and social requirements	He/she can effectively utilize spreadsheet software tools and apply them to optimize economic processes with regard to ESG (Environmental, Social, and Governance) factors. Participates in consultations.	[SK4] test/exam - oral or written [SK5] implementation of a problem task [SK8] observation of student's independent or team work
	[EKONL3_K04] is willing to think and act in an entrepreneurial manner; adapts to new situations and conditions, takes on the challenges of creative thinking, is resilient in the face of failure, is able to identify risks and assess the risks of failure	He/she can creatively combine spreadsheet tools to solve complex economic problems.	[SK4] test/exam - oral or written [SK5] implementation of a problem task [SK6] demonstration of practical skills
	[EKONL3_U02] is able to use the knowledge of theory and data to analyse concrete economic and social processes and phenomena and to analyse these phenomena using methods developed in economics, finance and management sciences	He/she can appropriately select spreadsheet tools depending on the theoretical problem to solve. He/she understands the relationship between spreadsheet functions and the economic variables being analyzed through them.	[SU6] demonstration of practical skills [SU8] observation of student's independent or team work
	[EKONL3_W11] knows the general principles for the creation and development of forms of individual entrepreneurship, using knowledge of economics, finance and management sciences	Knows which functions and spreadsheet formulas can be used to analyze economic phenomena and which can support management processes in the company. Able to use consultations as a method to improve the selection of tools.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report [SW5] implementation of a problem task
	[EKONL3_U03] is able to analyse the causes and course of specific economic and social processes and phenomena, and accurately analyse these phenomena using adequate methods and tools economic and social	He/she can conduct cause-and-effect analyses using spreadsheet tools.	[SU4] test/exam - oral or written [SU5] implementation of a problem task
	[EKONL3_U06] uses the knowledge acquired in economics, finance and management to solve economic and social dilemmas arising in the professional context	Using spreadsheets, he/she can analyze financial reports and sets of economic data.	[SU4] test/exam - oral or written [SU5] implementation of a problem task [SU6] demonstration of practical skills

Subject contents	1. Financial Analysis Using Spreadsheets: Credit analysis using built-in spreadsheet functions, methods like equal installment and equal repayment; NPV and IRR analysis; examination of corporate cash flows; balance sheet creation using spreadsheets; exploring solution variants, utilizing Solver for multi-variant analysis. 2. Graphical Data Presentation: Utilizing graphs; creating various types of charts for economic data presentation; advanced techniques for constructing layered charts. 3. Scenario Analysis: Creating and saving scenarios, variant analysis, forecasting methods in scenario analysis. 4. Programming Complex User Functions: Financial and statistical functions in the Analysis Tool Pack add-in, principles of creating complex functions, defining user-defined functions, nested function methods, using array functions. 5. Pivot Table Creation and Analysis: Adjusting data for use in pivot tables, constructing pivot tables from various data sources, using external data sources in pivot table creation (+ MS Query add-in), pivot charts. 6. Unconventional and Advanced Excel Formulas: Utilizing array formulas, counting arrays using formulas, comparative analysis of data sets. 7. Solver Utilization: Solver tool application scope and limitations - analysis using practical economic examples. 8. Macro Definition: Macro recording principles, methods and VBA objects, macro storage. 9. Macro Definition Analysis and Customization: Macro structure analysis, macro editing, loops, conditions, and variations. 10. User Form Utilization: Creating data entry forms, informational forms, linking forms with macros. Any doubts regarding the issues discussed during classes can be discussed during consultations.		
Prerequisites and co-requisites	Basic ability to use spreadsheets		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam - problems to solve	51.0%	50.0%
	Oral exam	51.0%	50.0%
Recommended reading	Basic literature	1. P.Borkowski: Excel w zarządzaniu, materiały ODITK 2021. 2. Portale internetowe Mr Excel 3. W. Treichel: Ćwiczenia z języka Visual Basic, Mikom 2001. 4.Steven Roman: Excel. Makrodefinicje, Helion, 2000	
	Supplementary literature	Jane Calabria, Dorothy Burke: Excel - przewodnik egzaminacyjny C.Conrad, Excel 2007. Analizy biznesowe, Helion, Gliwice 2009 S.Flanczewski, Excel z elementami VBA w firmie, Helion, Gliwice 2008.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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