

**Subject card**

<b>Subject name and code</b>	Application of Computers in Economic Analysis, PG_00118980						
<b>Field of study</b>	Economics						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2026/2027		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	3	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	6	<b>ECTS credits</b>			2.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			credit		
<b>Conducting unit</b>	Department of Transport Economics -> Faculty of Economics -> Rector						
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. Przemysław Borkowski				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	0.0	15.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
	Additional information: Lectures utilizing spreadsheets and web apps.						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	15		0.0		0.0	15
<b>Subject objectives</b>	The objectives of the course are:1. Acquiring skills in using spreadsheet software for conducting financial analysis in a company.2. Familiarization with implemented spreadsheet functions for conducting economic and financial analyses.3. Acquiring skills in integrating various spreadsheet tools for proper data presentation, manipulation, and conducting quantitative analyses.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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 tools to support financial data analysis and scenario analysis (e.g., Solver, custom filters), utilize pivot tables for variant analysis, and prepare economic scenarios for company activities in finance, credit, sales, production, and efficiency indicators using spreadsheets.	[SU5] implementation of a problem task [SU6] demonstration of practical skills
	[EKONL3_K05] correctly identifies, diagnoses and resolves professional dilemmas and different options for solutions	He/she can evaluate data using spreadsheets while considering legal requirements in the scope of financial reporting for enterprises.	[SK2] presentation/project/paper/report [SK5] implementation of a problem task
	[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	The student can actively expand their knowledge by independently combining various spreadsheet tools to create solutions tailored to specific situations.	[SK5] implementation of a problem task [SK6] demonstration of practical skills
	[EKONL3_K02] is aware of the level of knowledge in the field of economics and understands the need to deepen and update this knowledge throughout life	He/she can work in a group by selecting optimal tools to solve a given problem.	[SK8] observation of student's independent or team work
	[EKONL3_U01] can correctly interpret economic and social phenomena and apply knowledge of economics, finance and management sciences to explain economic phenomena	Student can use spreadsheet functions to calculate economic quantities, understands economic terminology, and can find equivalents of economic concepts among programmed spreadsheet functions.	[SU5] implementation of a problem task [SU8] observation of student's independent or team work
	[EKONL3_U06] uses the knowledge acquired in economics, finance and management to solve economic and social dilemmas arising in the professional context	He/she can build custom spreadsheets to support typical operations of a company.	[SU5] implementation of a problem task
	[EKONL3_W06] knows in depth 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	The student has knowledge of efficient and effective use of spreadsheet software for conducting analyses of socio-economic processes.	[SW2] presentation/project/paper/report [SW5] implementation of a problem task
	[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 use external data, process them in a spreadsheet, visualize numerical data describing economic processes in enterprises, build custom lists, formulas, and functions to enable economic interpretation of economic phenomena.	[SU5] implementation of a problem task
	[EKONL3_W11] knows at an advanced level the general principles for the creation and development of forms of individual entrepreneurship, using knowledge of economics, finance and management sciences	He/she can gather and analyze economic data in spreadsheets within the company, using software for evaluating the economic efficiency of business operations, constructing scenario variants, and presenting results. He/she has knowledge of methods for representing economic phenomena using spreadsheet tools.	[SW2] presentation/project/paper/report [SW5] implementation of a problem task

Subject contents	<p>1. Spreadsheet management, optimization of spreadsheet settings, basic spreadsheet functions used in economic analysis  2. Analysis of trade and production: Assessment using spreadsheet functions and templates: turnover, production, sales revenue. Sales forecast, turnover dynamics graphs, price analysis  3. Cost analysis: Structure of fixed and variable costs. Cost forecast. Presentations using tables and graphs; depreciation plans, calculations using Excel functions  4. Credit control: Formulas and functions counting installments, interest, credit periods. Use of array formulas for multivariate credit analysis  5. Financial statements - analysis using conditional functions: find result options, scenarios in views. Preparation of company income statements using spreadsheet capabilities. Analysis of income dynamics and structure; graphical representation of profits and losses; analysis of balance sheet and income statement data. Cash flow chart  6. Investment efficiency analysis using spreadsheets. NPV analysis, efficiency indicators. Creation of custom analytical functions  7. Use of pivot tables in economic analysis, data interpretation  8. Excel use in creating databases in the enterprise: Database of individual clients and companies. Building a database, requirements, forms  9. Financial analysis of publicly traded companies - used indicators, building user sheets with custom analytical formulas. Operational profitability and sales profitability  ROA - Return on Assets; ROE - Return on Equity; Return on Equity Dynamics; Net profit dynamics; Market value (P); Earnings per ordinary share in PLN; price/earnings ratio</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Exercises	50.0%	30.0%
	Exam	50.0%	70.0%
Recommended reading	Basic literature	P.Borkowski, Excel w finansach i zarządzaniu, ODiTK 2007. A.Loren, Excel-praktyczne zastosowania w biznesie, Helion, Gliwice 2005. J.Walkenbach, Excel 2007, Helion, Gliwice 2007.	
	Supplementary literature	L.Bednarski.: Analiza finansowa w przedsiębiorstwie. PWE, Warszawa 1997; C.Conrad, Excel 2007. Analizy biznesowe, Helion, Gliwice 2009; S.Flanczewski, Excel z elementami VBA w firmie	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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