

Subject card

Subject name and code	Portfolio Management, PG_00187229						
Field of study	International Business						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
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		English		
Semester of study	3		ECTS credits		3.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Transport Economics -> Faculty of Economics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Przemysław Borkowski, prof. UG				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	30.0	0.0	60
	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	60		0.0		15.0	75
Subject objectives	The aim of the course is to provide students with knowledge of contemporary portfolio management methods and to develop practical skills in the construction, analysis and evaluation of investment portfolios. Particular emphasis is placed on asset allocation, portfolio performance measurement, investment risk assessment, diversification strategies and investment decision-making in both domestic and international financial markets. As part of the project, students apply portfolio management concepts and tools to formulate investment recommendations and portfolio management strategies.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[IBMU2_U02] can interpret statistical data and economic indicators and select and use information technologies when working with data related to international business.	The student is able to analyze and interpret market data and indicators used in portfolio management, as well as select and apply information technology tools supporting the assessment of risk, performance, and asset allocation.	[SU2] presentation/project/paper/report
	[IBMU2_K03] is ready to act in an entrepreneurial manner, initiate innovative solutions and undertake challenges under conditions of uncertainty and risk.	The student is ready to identify and exploit investment opportunities, formulate recommendations, and make decisions under conditions of risk and uncertainty.	[SK2] presentation/project/paper/report
	[IBMU2_K04] is ready to assume leadership roles and share responsibility for the implementation of complex projects in an international environment.	The student is ready to cooperate within a project team, assume responsibility for assigned tasks, and contribute to implementing portfolio management projects by participating in analytical and investment decision-making processes.	[SK2] presentation/project/paper/report
	[IBMU2_W06] knows and understands the structure and dynamics of the global economy, international markets and economic and financial interconnections, as well as their evolution and the consequences of ongoing changes.	The student knows and understands the relationships between financial markets, capital flows, and investment risk, as well as their implications for asset allocation and portfolio management decisions.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report

Subject contents	Lecture (30 hours) 1. Principles of asset allocation (2 h.) Basics of investment decisions, assets and investment needs; investors life-cycle; principles of asset allocation. 2. Basic asset classes (2h) Shares, bonds, fixed income securities, duration, credit, CDS. Non-financial assets in portfolios. 3. Capital Asset Pricing Model (2 h.) Application of Capital Asset Pricing Model (CAPM), Arbitrage Pricing Theory as an alternative approach (APT) 4. Basics of portfolio theory (2 h.) Principles of Markowitz portfolio analysis, two-asset portfolio versus multi-asset portfolio 5. Portfolio analysis (3 h.) The idea of asset diversification; problem of correlation and its impact on return rates, covariance and its financial consequences; efficiency frontier in asset diversification. 6. Optimal portfolio choice (3 h.) Rational choice principle; utility function in portfolio optimization; assets and weights in portfolio. Risk and return balancing, behavioral considerations. 7. Performance measurement (2h) Measures of portfolio performance. Fundamentals and technical analysis. Long vs. short term perspective. Holding periods. 8. Portfolio efficiency (2h.) Improvement of portfolio efficiency over long periods of time - principles of performing portfolio structure changes 9. Risk in portfolios (3h) Types of risk associated with portfolio selection; Standard Deviation, R-square and volatility. Use of Value at Risk in portfolio risk assessment 10. Risk management in portfolio investments (3h) Solutions allowing for portfolio risk reduction. Ways to efficiently diversify assets. Branch analysis. Beta coefficients. 11. Investment funds and portfolio choice (2 h.) Functions and types of investment funds; problem of optimal choice on the part of investor; financial information in investment funds; transaction and hidden costs. 12. International investors (2 h.) Comparison between national and foreign assets, legal issues. International investment alternatives, free capital flows restrictions; currency risk; institutional solutions for international investing. 13. Professional advisory services (2h) Role of professional advisors. The 3-Ps (Philosophy, Process and People). Communication with the client. Ethics of portfolio advisor. Project (30 hours) The project is carried out individually and focuses on the application of portfolio management concepts, methods and tools discussed during the course. Project idea will be presented at the start of the semester. Project is designed as a virtual portfolio investment. Students analyse selected investment assets, construct and evaluate investment portfolios, assess portfolio risk and performance, and formulate recommendations regarding portfolio allocation and management. Project is based on the application of portfolio theory, asset valuation models, risk measurement techniques, diversification strategies, investment fund analysis, or international portfolio investment considerations. Project work includes: 1. Selection and definition of the investment (2 hours) 2. Identification and analysis of relevant financial data and information sources (4 hours) 3. Portfolio construction and asset allocation analysis (6 hours) 4. Risk and performance assessment (6 hours) 5. Development of recommendations and portfolio management strategies (6 hours) 6. Preparation of the final report and presentation of results (6 hours)
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	The final outcome of the project is n individual raport.		
Prerequisites and co-requisites	Entry requirements		
	Basic konwledge of finance		
	Course Completion Requirements		
	The final grade for the course may be awarded only after obtaining a passing grade in all course components specified in the syllabus (lectures and project). Positive result from each component is a mandatory requirement for successful completion of the course.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Exam	51.0%	30.0%
	Project	51.0%	70.0%
Recommended reading	Basic literature	Stewart, S. D., Piros, C. D., & Heisler, J. C. (2019). <i>Portfolio management: Theory and practice</i> . John Wiley & Sons	
		Grinold, R. C., & Kahn, R. N. (2020). Advances in active portfolio management: New developments in quantitative investing. McGraw Hill	
		Bodie, Z., Kane, A., & Marcus, A. J. (2023). <i>Investments</i> (13th ed.). McGraw-Hill Education	
	Supplementary literature	Fabozzi, F. J., & Fabozzi, F. A. (2021). Bond Markets, Analysis, and Strategies (10th ed.). The MIT Press.	
		Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. (2014). <i>Modern Portfolio Theory and Investment Analysis</i> (9th ed.). John Wiley & Sons.	
		Borkowski, P., & Abdullazade, Z. (2025). ESG indicators and sectoral volatility: GARCH vs. hybrid machine learning. Finance Research Letters, 85, Artykuł Pt C. https://doi.org/10.1016/j.frl.2025.108103	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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