University of Gdańsk

Subject card

Subject name and code	Investment Analysis and Portfolio Theory, PG_00202433		
Field of study	Economics, International Economic Relations, International Business, Logistics and Mobility		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2026/2027
Education level	Master's studies	Subject group	Obligatory subject group in the field of study Optional subject group
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	English
Semester of study	4	ECTS credits	5.0
Learning profile	academic	Assessment form	credit
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	mgr Paweł Smoliński	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	0.0	0.0	30
	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	30	0.0	95.0	125

Subject objectives	The aim of the course is to familiarize students with the fundamentals of investment analysis and modern portfolio theory. Students will learn classical asset pricing models, the relationship between risk and return, principles of portfolio diversification, and mechanisms of capital market functioning. The course covers Markowitz portfolio theory, the CAPM model, equilibrium in capital markets, the efficient market hypothesis, and basic multifactor asset pricing models. Upon completion of the course, students will be able to analyze investment risk and return, construct and evaluate investment portfolios, and interpret processes occurring in contemporary financial markets.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[EKONL3_W06] has 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	The student knows basic statistical and econometric methods used in investment analysis.	[SW4] test/exam - oral or written
	[IBL3_W08] knows and understands principles of economic decision making by individuals acting within social and business structures	The student understands investment decision-making under risk and uncertainty.	[SW4] test/exam - oral or written
	[MSGMU2_U02] can observe, evaluate and critically analyse the causes and course of processes and phenomena taking place in the open economy; can formulate his/her own opinions on the subject, interpret statistical data and economic indicators necessary in this respect, and also forecast economic processes and phenomena using advanced methods and tools applied in economic sciences	The student can analyze and forecast processes occurring in financial markets using economic methods.	[SU4] test/exam - oral or written
	[MSGMU2_U04] can use the acquired knowledge to formulate and solve complex problems related to the operation of economic entities on the international market, with particular emphasis on the European Union market	The student can solve problems related to the functioning of firms in financial markets.	[SU4] test/exam - oral or written
	[IBMU2_U01] can creatively interpret, explain and analyse complex economic phenomena and the relations occurring between them, using the acquired knowledge in international business and international economic and financial relations	The student can interpret and analyze complex phenomena occurring in capital markets.	[SU4] test/exam - oral or written
	[MSGL3_W07] knows and understands types of economic ties and regularities governing them, including the principles of functioning of the market and the market mechanism, both in the national and international aspect	The student understands the functioning of capital markets and the relationship between risk and return.	[SW4] test/exam - oral or written
	[EKONL3_U04] can predict and forecast the course of economic and social processes and phenomena	The student can forecast basic phenomena occurring in financial markets.	[SU4] test/exam - oral or written
	[MSGMU2_W13] knows and understands methods and tools for describing economic phenomena, including data acquisition techniques, which make it possible to describe and analyse economic entities functioning on the international market as well as processes and phenomena occurring in them and between them, and also those supporting decision-making processes	The student knows methods and tools for analyzing economic phenomena supporting investment decisions.	[SW4] test/exam - oral or written
	[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	The student can use financial data to analyze economic and investment processes.	[SU4] test/exam - oral or written
	[IBL3_W03] knows and understands selected research methods and tools, including IT tools and data acquisition techniques, which are applicable to international business issues	The student knows basic research tools and methods used in investment analysis.	[SW4] test/exam - oral or written

	Course outcome	Subject outcome	Method of verification
	[MSGL3_U06] can identify selected risks related to international operations of enterprises and assess their consequences correctly	The student can identify and assess risks related to corporate investment activity.	[SU4] test/exam - oral or written
	[MSGMU2_W05] has an in-depth knowledge of the world economy, principles of global market functioning and international financial relations as well as the process of their evolution; understands the causes, regularities and consequences of occurring changes	The student has advanced knowledge of global financial markets and their evolution.	[SW4] test/exam - oral or written
	[MSGL3_W10] knows selected methods and tools, including IT tools and data acquisition techniques, which make it possible to describe and analyse economic entities operating on the international market; knows the processes and phenomena occurring in them and between them, and processes supporting decision-making	The student knows tools for analyzing firms operating in international markets.	[SW4] test/exam - oral or written
	[IBMU2_U04] can formulate and test hypotheses related to advanced research problems in the field of international business using appropriately selected methods and tools	The student can formulate and test hypotheses concerning financial markets.	[SU4] test/exam - oral or written
	[IBMU2_W06] has in-depth knowledge of the world economy, economic ties and the regularities governing them, principles of global market functioning and international economic and financial relations as well as the process of their evolution; understands the causes, regularities and consequences of occurring changes;	The student has advanced knowledge of global financial markets and investment processes.	[SW4] test/exam - oral or written
	[IBL3_U01] can interpret and explain economic phenomena, analyse their causes, course and connections within these phenomena using the acquired knowledge of international business, economics and finance and complementary disciplines	The student can interpret economic and financial phenomena related to capital markets.	[SU4] test/exam - oral or written
	[IBMU2_W02] knows and understands in depth methods and tools for describing economic phenomena, including data acquisition techniques, which make it possible to describe and analyse business entities functioning on the international market as well as processes and phenomena occurring in them and between them	The student knows methods and tools used in investment analysis and asset pricing.	[SW4] test/exam - oral or written
	[LMMU2_U02] can use acquired knowledge to describe and analyse the causes and course of logistics and mobility processes and systems, and can formulate his/her own opinions and critically select data and analysis methods based on the achievements of economic and social sciences	The student can analyze processes occurring in financial markets and critically select investment analysis methods.	[SU4] test/exam - oral or written
	[IBL3_U05] can identify and evaluate selected risks related to international business	The student can identify and assess risks related to investing in international markets.	[SU4] test/exam - oral or written

	Course outcome	Subject outcome	Method of verification
	[LMMU2_U04] can forecast and model complex economic and social processes, as well as logistics and mobility processes and systems using quantitative and qualitative methods and tools developed by economic sciences (including statistics and econometrics)	The student can model the relationship between risk and return and analyze investment portfolios using quantitative methods.	[SU4] test/exam - oral or written
	[EKONMU2_U04] can forecast and model complex economic and social processes using quantitative and qualitative methods and tools developed by economic sciences (including statistics and econometrics)	The student can model economic processes using portfolio analysis methods.	[SU4] test/exam - oral or written
	[EKONMU2_U02] can use acquired knowledge to describe and analyse the causes and course of economic and social processes and phenomena, and can formulate his/her own opinions and critically select data and analysis methods based on the achievements of economic and social sciences	The student can analyze economic and financial processes and select appropriate analytical methods.	[SU4] test/exam - oral or written
	[EKONL3_W07] has an advanced knowledge of the economic and financial principles of the functioning and management of economic entities and organisations as well as the legal, organisational, moral and ethical norms and rules governing the functioning of public institutions	The student understands the principles of functioning of financial institutions and markets.	[SW4] test/exam - oral or written
	[LMMU2_W07] has a knowledge of economic and financial principles governing the functioning and management of economic entities and organisations, which require logistics support or provide logistics services, as well as of systems of legal, organisational, professional, moral and ethical norms and rules organising public structures and institutions, both in the national and international spheres	The student understands economic and financial principles of business organizations.	[SW4] test/exam - oral or written
	[MSGL3_U02] can assess economic and social phenomena occurring in an open economy, interpret necessary statistical data and economic indicators, as well as forecast economic phenomena and processes, using standard methods and tools applied in economic sciences	Student potrafi interpretować dane finansowe oraz oceniać procesy zachodzące w gospodarce otwartej.	[SU4] test/exam - oral or written
	[EKONMU2_W06] knowsin advanced stage statistical and econometric methods and tools for description and macro- and microeconomic modelling of economic structures and public institutions and processes occurring in them	The student knows advanced statistical and econometric methods used in finance.	[SW4] test/exam - oral or written
	[EKONMU2_W07] has an in-depth knowledge of economic and financial principles governing the functioning and management of economic entities and organisations, as well as of systems of legal, organisational, professional, moral and ethical norms and rules organising public structures and institutions, both in the national and international spheres	The student has advanced knowledge of the functioning of financial markets and institutions.	[SW4] test/exam - oral or written

	Course outcome	**Subject outcome**	**Method of verification**
	[LMMU2_W06] has an in-depth knowledge of statistical and econometric methods and tools for description and macro- and microeconomic modelling of logistics and mobility processes and systems	The student knows methods for modeling economic and financial processes.	[SW4] test/exam - oral or written

Subject contents

1. Introduction to investment analysis and financial markets.
   - Functions and structure of financial markets
   - Financial instruments: stocks, bonds, investment funds
   - Returns, risk, and basic measures of investment performance
2. Risk and return.
   - Expected return and variance
   - Risk diversification
   - Correlation and covariance of assets
   - Beta as a measure of systematic risk
3. Markowitz portfolio theory.
   - Efficient portfolio and efficient frontier
   - Portfolio optimization
   - Minimum variance portfolio
   - The role of diversification in reducing risk
4. CAPM and equilibrium in capital markets.
   - Assumptions of the CAPM model
   - Capital Market Line (CML)
   - Security Market Line (SML)
   - Market risk premium
   - Empirical limitations of CAPM
5. Efficient market hypothesis.
   - Weak, semi-strong, and strong forms of market efficiency
   - Informational efficiency of markets
   - Market anomalies and limitations of EMH
6. Multifactor models.
   - Fama-French three-factor model
   - Momentum as a risk factor
   - Foundations of modern asset pricing models
7. Portfolio management.
   - Active and passive investment strategies
   - Asset allocation
   - Investment performance evaluation
   - Sharpe ratio, Treynor ratio, and Jensens alpha
8. Contemporary issues in financial markets.
   - Globalization of capital markets
   - Index investing and ETFs
   - Financial crises and systemic risk
   - Behavioral aspects and limitations of classical finance models

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
testy/final exam	51.0%	100.0%

Recommended reading

Basic literature	Bodie, Z., Kane, A., Marcus, A. J. *Investments*. McGraw-Hill Education. Pedersen, L. H. *Efficiently Inefficient: How Smart Money Invests and Market Prices Are Determined*. Princeton University Press.
Supplementary literature	Fama, E. F., & French, K. R. (1992). *The cross-section of expected stock returns*. *The Journal of Finance, 47*(2), 427465. Markowitz, H. (1952). *Portfolio selection*. *The Journal of Finance, 7*(1), 7791. Sharpe, W. F. (1964). *Capital asset prices: A theory of market equilibrium under conditions of risk*. *The Journal of Finance, 19*(3), 425442. Malkiel, B. G. (2023). *A Random Walk Down Wall Street: The Best Investment Guide That Money Can Buy* (13th ed.). W. W. Norton & Company
eResources addresses	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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