

**Subject card**

<b>Subject name and code</b>	Investment and Risk Management Process, PG_00153788						
<b>Field of study</b>	Logistics and Mobility						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2024/2025		
<b>Education level</b>	postgraduate 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>	1	<b>Language of instruction</b>			English Lecture in English		
<b>Semester of study</b>	1	<b>ECTS credits</b>			2.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>					
<b>Conducting unit</b>							
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. Przemysław Borkowski				
	<b>Teachers</b>		dr hab. Przemysław Borkowski				
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
	Additional information: Lectures including multimodal presentations, Activating methods in training classes, Case studies, Individual projects,						
<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>	to make student familiar with investment assessment techniques in real sector to understand risk and how it applies to investment projects in real sector to manage and assess risk to be able to manage investment during its lifespan to be able to compare and select preferable investments to be able to assess transport and logistics investments						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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	Is able to formulate and evaluate assessment criteria for investment acceptance. Is able to select appropriate evaluation method to the investment	[SU2] presentation/project/paper/report [SU3] text preparation/written work [SU5] implementation of a problem task [SU6] demonstration of practical skills
	[LMMU2_W06] knows statistical and econometric methods and tools for description and macro- and microeconomic modelling of logistics and mobility processes and systems	Is able to apply selected qualitative and quantitative methods and to build and investment appraisal models. Knows how to calculate ENPV, BCR, EIRR, VaR	[SW2] presentation/project/paper/report [SW3] text preparation/written work [SW5] implementation of a problem task
	[LMMU2_W04] knows different types of economic and social ties and regularities governing them; has an in-depth knowledge of ties between enterprises which require logistics support or provide logistics services	Knows methods for assessment of economic and financial viability in view of the relations between actors in the investment market. Knows how to apprise value and risks in investment projects.	[SW2] presentation/project/paper/report [SW5] implementation of a problem task
	[LMMU2_W03] has an in-depth knowledge of relations between economic entities and organisations functioning in the national, international and intercultural spheres; understands importance logistics and mobility for their operation	Understands the investment concept and relation between entities in the investment market.	[SW1] oral statement/conversation/discussion [SW5] implementation of a problem task
	[LMMU2_K04] is ready to think and act in an entrepreneurial manner; adapts to new situations and conditions; undertakes challenges of creative thinking; acquires resilience to failures; can assess risks and threats and find ways of counteracting their effects	knows how to react to changing socio-economical conditions. knows how to assess risk and propose risk management solutions.	[SK3] text preparation/written work [SK5] implementation of a problem task
	[LMMU2_K01] recognises the importance of knowledge in the field of logistics and mobility in the process of identifying and solving work-related problems and of consulting experts when having difficulties in solving them independently	Can analyse problems taking into account multiple factors. Can make decisions referring to methods and selected algorithm. Is able to look for solutions in the appropriate literature	[SK2] presentation/project/paper/report [SK5] implementation of a problem task
	[LMMU2_K03] inspires and organises preparation of projects in the field of logistics and mobility, following the idea of sustainable development, reconciling legal, economic, ecological, political and social requirements	Learns how to reconcile contradictory investment requirements. Understands impacts on society and can plan on mitigating negative environmental and social aspects of investments	[SK1] oral statement/conversation/discussion [SK2] presentation/project/paper/report
	[LMMU2_K02] is aware of the level of his/her knowledge in the field of logistics and mobility; understands the need to extend and update this knowledge throughout his/her life	Understands limitations of methods used. Can search for indicators and data.	[SK2] presentation/project/paper/report [SK5] implementation of a problem task [SK6] demonstration of practical skills
	[LMMU2_U07] can independently propose solutions to complex logistics and mobility problems, select methods of analysis and conduct conclusive procedures in this respect	Is able to perform comparative analysis of alternative investments	[SU2] presentation/project/paper/report [SU5] implementation of a problem task
	[LMMU2_W08] has an in-depth knowledge of main and logistics processes occurring in enterprises and economic organisations and with related areas, as well as of processes of change in public institutions; knows methods of research on the regularities governing these changes, taking into account the influence of external stakeholders on them	Understands what is the role of different organizational units within company during investment process. knows the interactions between public and private entities in transport and logistics investments	[SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report

	Course outcome	Subject outcome	Method of verification
		[LMMU2_U06] can practically apply various forms and range of acquired knowledge in logistics and mobility, supplementing it with an independent critical analysis of its efficiency and usefulness	Can select appropriate method for project assessment. Can select optimal financing. Can select adequate tools for the investment risk management
	[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)	Can apply CBA and VaR techniques. Can calculate ENPV of complex investment projects. Can calculate risk and perform sensitivity analysis.	[SU2] presentation/project/paper/report [SU5] implementation of a problem task [SU6] demonstration of practical skills
Subject contents	1. Basics of investment theory: investment in real vs financial sector, investment theories: financial investment equilibrium in Markowitz and CAPM vs real sector investment market equilibrium, investors and investment lifecycles, infrastructure vs company own investments (2h) 2. Financing real sector investments: financial mechanisms for investing in real sector, external and internal capital, cost of capital, innovative financial instruments, green bonds and green financing (4h) 3. Investment decision making process: application of the theory of decision making under condition of risk into real sector investments, investment selection, preliminary investment assessment, alternative investments (2h) 4. Investment financial and economic assessment: financial indicators, rate of return and discounted cash flows, fundamental analysis of the investment project (4h) 5. Cost Benefit Analysis: calculation of costs and benefits, ENPV and BCR for selected T&L investments (5h) 6. Risk identification and assessment in investment projects: risk typology, qualitative and quantitative risk assessment, VaR and sensitivity for investment project assessment (5h); 7. Risk management: risk strategies, internal and external risk instruments, use of real options and derivatives, risk avoidance and risk taking (4h) 8. Case studies in investment assessment in T&L sector (4h)		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	50.0%	100.0%
Recommended reading	Basic literature	1. P. Borkowski, A framework for risk analysis in infrastructure projects, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, nr 401, 2015, s. 69-82, DOI:10.15611/pn.2015.401.0 2. P. Borkowski, Applicability of reference-based appraisals in the assessment of real sector investment projects, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, nr 401, 2015, ss. 58-68. 3. Guide to Cost-Benefit Analysis of Investment Projects, European Commission, Brussels 2014, 4. Blue Books of JASPERS ( <a href="http://niebieskie.ksiegi.2021-2027-CentrumUnijnychProjektowTransportowych.cupt.gov.pl">Niebieskie Księgi 2021-2027 - Centrum Unijnych Projektów Transportowych. (cupt.gov.pl)</a> )	
	Supplementary literature	4. P. Borkowski, Practice of cost benefit analysis in transport infrastructure projects in the European Union, Zeszyty Naukowe Uniwersytetu Szczecińskiego Problemy Transportu i Logistyki, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, nr 27, 2014, s. 49-63. 5. H.Priemus, B.Flyvbjerg, B.van Wee, Decision-making on mega-projects, Edward Elgar Publishing, Cheltenham 2008. 6. Assessing the true value of infrastructure investments, KPMG, 201	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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