

Course title		Investment and Risk Assessment						ECTS code		14.3.EE.KL.3645		
								ECTS credits		4		
Name of unit administrating study		KET		Field of study		Economics		Field of specialisation		L&M;		
Teaching staff		Przemysław Borkowski, Associate Professor										
Number of hours												
Lectures	15	Classes	15	Tutorials	0	Laboratory	0	Seminars	0	Language classes	0	
Forma aktywności							Year&Type of studies*		1 SS2,			
Hours with the participation of the academic teacher (including office hours, exams, others):							Semester:		2,			
Hours without the participation of the academic teacher (student's self-study, homeworks):							Type of course:		obligatory			
Total number of hours:							0		Language of instruction:		English	
Teaching form	in-class learning											
Teaching methods	Lectures including multimodal presentations, Activating methods in training classes, Case studies, Individual projects,											
Prerequisites (required courses and introductory requirements)												
Required courses	Mathematical statistics											
Introductory requirements	Understanding of basic economic concepts											
Assessment method, forms and criteria												
Assessment method	Exam											
Assessment criteria	Exam consisting of project based on solving real investment case assessment. Theoretical part (30%) and practical problems to be solved (70%). Marking: more than 50% to 60% = 3; more than 60% to 70% = 3.5; more than 70% to 80% = 4; more than 80% to 90% = 4.5; above 90% = 5.											
Course objectives												
<ul style="list-style-type: none"> • 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												
Knowledge	E2_W03	Understands the investment concept and relation between entities in the investment market.										
	E2_W04	Knows methods for assessment of economic and financial viability. Knows how to apprise risks in investment projects.										
	E2_W06	Has detailed knowledge of financial and real instruments for investment management and investment risk management										
	E2_W08	Understands the differences between public and private investments in infrastructure and T&L sectors.										
Verification of learning outcomes - Knowledge												
Outcomes	written exam	oral exam	test	essay/paper /portfolio	tasks/ homeworks	individual presentation	group presentation	classroom activities	classroom discussion	individual project	group project	
E2_W03	X							X	X			
E2_W04					X				X	X		
E2_W06					X				X	X		

E2_W08								X	X	X	
Skills	E2_U02	Is able to formulate and evaluate assessment criteria for investment acceptance.									
	E2_U04	Can apply CBA and VaR techniques. Can calculate ENPV of complex investment projects. Can calculate risk and perform sensitivity analysis.									
	E2_U06	Can select appropriate method for project assessment. Can select optimal financing. Can select adequate tools for the investment risk management.									
	E2_U07	Is able to perform comparative analysis of alternative investments									

Verification of learning outcomes - Skills

Outcomes	written exam	oral exam	test	essay/paper /portfolio	tasks/ homeworks	individual presentation	group presentation	classroom activities	classroom discussion	individual project	group project
E2_U02								X	X		
E2_U04										X	
E2_U06										X	
E2_U07								X	X		

Attitudes	E2_K01	Can analyse problems taking into account multiple factors. Can make decisions referring to methods and selected algorithm.									
	E2_K02	Understands limitations of methods used. Can search for indicators and data.									
	E2_K04	Is able to follow assessment procedure for the complex investment project applying appropriate techniques at various stages of the assessment procedure									
	E2_K03	Learns how to reconcile contradictory investment requirements. Understands impacts on society and can plan on mitigating negative environmental and social aspects of investments.									

Verification of learning outcomes - Attitudes

Outcomes	written exam	oral exam	test	essay/paper /portfolio	tasks/ homeworks	individual presentation	group presentation	classroom activities	classroom discussion	individual project	group project
E2_K01					X				X	X	
E2_K02										X	
E2_K03										X	
E2_K04								X	X		

Course 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)

Recommended reading lists

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. 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, 2016.

Contact

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* SS1- undergraduate studies * SS2 - graduate studies * SDang - doctoral studies
** MSG - International Economic Relations