Course title	Investment and Risk Assesment	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

- 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 critiria 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 finaning. 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 refering 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 requirments. Understands ipmacts on society and can plan on mitigitaing 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 Wrocawiu, 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.

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

