Co-funded by the
Erasmus+ Programme
of the European Union

Tabl. 1

List of Competences

Competences Area	Competences
Systems Development and Deployment	1. Managing plan-based, hybrid, and agile development approaches
	2. Specifying and documenting systems requirements
	3. Managing IS development projects
Data, Information and Content Management	4. Selecting appropriate data management technologies based on the needs of the domain
	5. Integrating and preparing data captured from various sources for analytical use
	6. Selecting and using appropriate analytics methods
Innovation, Organizational Change and Entrepreneurship	7. Developing a business plan
	8. Understanding how to apply creative problem solving to technology-related issues
IS Strategy and Governance	9. Engaging in IS strategic planning
	10. Planning and implementing IS governance
Enterprise Architecture	11. Understanding enterprise architecture principles and the value it provides to business
	12. Communicating and deploying an EA
Business Continuity and Information Assurance	13. Implementing and managing quality audit processes
	14. Managing Information Systems risks
IS Management and Operations	15. Managing IS/IT projects and programs
IT Infrastructure	16. Monitoring emerging technologies to understand their potential to support the domain

Tabl. 2

List of Programme learning Outcomes

№	**Professional Learning Outcomes**	**P**
1.	to understand essential concepts, facts, principles, and theories of information system	P1
2.	to understand the diversity and state-of-the-art in area of information system	P2
3.	to be able to analyse, model, and evaluate organization's business processes from the perspective of information systems development	P3
4.	to be able to apply various methods of information systems analysis	P4
5.	to understand problems of users of information systems, to be able to identify, analyse and specify user requirements	P5
6.	to be able to manage information systems development projects and identify, analyse, evaluate, and solve the arising management problems	P6
7.	to be able to identify, analyse, and understand unorthodox problems of information systems development	P7
8.	to be able to apply various methods of information systems design	P8
9.	to be able to apply methods of knowledge, metadata analysis and information safety engineering	P9
10.	to be able to identify, find and evaluate information relevant to information systems by using data bases and other sources of information	P10
11.	to be able to apply various computerized tools for model driven information systems analysis and design	P11
12.	to be able to choose and apply various technologies of information systems' development	P12
13.	to be able to apply various tools for management of information systems projects	P13
14.	to be able to develop innovative decisions for IT business creation and support	P14
Personal and Social Learning Outcomes		
15.	to be able to think systematically when analysing different situations, solving problems and tasks	PS1
16.	to be able to apply the acquired knowledge creatively	PS2
17.	to be able to work individually with minimum guidance, manage one’s work and time	PS3
18.	to be able to work efficiently in a group, manage the team, and act collectively	PS4

19.	to be able to understand the impact of information systems solutions on the society and environment and their economic aspects	PS5

Tabl.3

Correlation matrix of Competences and Programme learning Outcomes

Competencies/ Learning Outcomes	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**P9**	**P10**	**P11**	**P12**	**P13**	**P14**	**PS1**	**PS2**	**PS3**	**PS4**	**PS5**
1. Managing plan-based, hybrid, and agile development approaches	x	x						x		x	x	x	x	x	x	x	x	x	x
2. Specifying and documenting systems requirements	x	x			x					x					x	x	x	x	x
3. Managing IS development projects					x			x		x	x	x	x		x	x	x	x	x
4. Selecting appropriate data management technologies based on the needs of the domain	x	x							x	x	x	x			x	x	x	x	x
5. Integrating and preparing data captured from various sources for analytical use	x	x							x	x	x	x			x	x	x	x	x
6. Selecting and using appropriate analytics methods	x	x	x				x		x	x	x				x	x	x	x	x
7. Developing a business plan	x	x					x			x	x			x	x	x	x	x	x
8. Understanding how to apply creative problem solving to technology-related issues	x	x					x			x	x			x	x	x	x	x	x

Competencies/ Learning Outcomes	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**P9**	**P10**	**P11**	**P12**	**P13**	**P14**	**PS1**	**PS2**	**PS3**	**PS4**	**PS5**
9.Engaging in IS strategic planning	x	x	x			x				x	x			x	x	x	x	x	x
10. Planning and implementing IS governance	x	x				x				x	x		x	x	x	x	x	x	x
11. Understanding enterprise architecture principles and the value it provides to business	x		x	x						x					x	x	x	x	x
12. Communicating and deploying an EA	x		x							x	x				x	x	x	x	x
13. Implementing and managing quality audit processes	x		x	x			x		x	x					x	x	x	x	x
14. Managing Information Systems risks	x		x	x		x	x		x	x	x				x	x	x	x	x
15. Managing IS/IT projects and programs	x				x	x				x	x	x	x		x	x	x	x	x
16. Monitoring emerging technologies to understand their potential to support the domain	x			x			x			x					x	x	x	x	x

Tabl.4

Correlation matrix of Programme Learning Outcomes and Courses

Programme Learning Outcomes	Courses							
	IS Development and Deployment	MIS and Data Warehousing	Enterprise Architecture Management	Management of IS Projects	Enterprise Architecture Management	IS Strategy	IT Infrastructure	Innovations and Entrepreneurship
1	2	3	4	5	6	7	8	9
to understand essential concepts, facts, principles, and theories of information system								x
to understand the diversity and state-of-the-art in area of information system								
to be able to analyse, model, and evaluate organization's business processes from the perspective of information systems development								x
to be able to apply various methods of information systems analysis								

1	2	3	4		6	7	8	9
to understand problems of users of information systems, to be able to identify, analyse and specify user requirements								
to be able to manage information systems development projects and identify, analyse, evaluate, and solve the arising management problems								x
to be able to identify, analyse, and understand unorthodox problems of information systems development								
to be able to apply various methods of information systems design								
to be able to apply methods of knowledge, metadata analysis and information safety engineering								

1	2	3	4		6	7	8	9
to be able to identify, find and evaluate information relevant to information systems by using data bases and other sources of information								
to be able to apply various computerized tools for model driven information systems analysis and design								
to be able to choose and apply various technologies of information systems' development								
to be able to apply various tools for management of information systems projects								x
to be able to develop innovative decisions for IT business creation and support								x

1	2	3	4	5	6	7	8	9
to be able to think systematically when analysing different situations, solving problems and tasks								x
to be able to apply the acquired knowledge creatively								x
to be able to work individually with minimum guidance, manage one's work and time								
to be able to work efficiently in a group, manage the team, and act collectively								x
to be able to understand the impact of information systems solutions on the society and environment and their economic aspects								x

Course Descriptors

Course title:	**Innovation and Entrepreneurship**
Course unit code	IE
Course Program:	MPIS
University delivering the course:	LPNU
Type of course unit	Core course
Level of course unit	Masters level
Number of ECTS credits allocated	5 Credits (150 hours of student work)
Teaching Methods	lectures, case study, presentations, Independent study.

Module Structure:

No	Type	Course	CP (h)	In class (h)	Independent study (h)
1	Course	**Innovation and Entrepreneurship course**	150	40	110

Relevant Work:

Number and Type; Connection to Course	Part of final grade in %
Class participation (minimum 5 class presentations and case studies)	30
Project	40
Written exam	30

Tabl.5

List of Course Learning Outcome(Innovation and Entrepreneurship course (IE)

Code of Learning Outcomes	Course Learning Outcomes
IE 1	strong theoretical knowledge in - innovation, - entrepreneurship, - organizational theory, - management in relation to information systems
IE 2	understanding both the evolution of the companies and possible routes of their rapid future development
IE 3	developing business plan
IE 4	innovating by exploiting an emerging method or technology
IE 5	analyzing and documenting business activities
IE 6	identifying opportunities for and designing process improvement
IE7	applying creative problem-solving in technology related issues
IE8	ability of connecting and integrating knowledge from different fields of study (interdisciplinary)
IE9	ability of identifying success factors of the organization (innovations and entrepreneurial opportunities)
IE10	analytical ability of defining reasons for certain situation in the organization

Tabl.6

Correlation matrix of Programme Learning Outcomes and Entrepreneurship course (IE) Course Learning Outcomes

Programme Learning Outcomes	Course Learning Outcomes	Code
1	2	3
to understand essential concepts, facts, principles, and theories of information system	strong theoretical knowledge in - innovation, - entrepreneurship, - organizational theory, - management in relation to information systems	IE1
	understanding both the evolution of the companies and possible routes of their rapid future development	IE2
to be able to analyse, model, and evaluate organization's business processes from the perspective of information systems development	analyzing and documenting business activities	IE5
	analytical ability of defining reasons for certain situation in the organization	IE10
to be able to manage information systems development projects and identify, analyse, evaluate, and solve the arising management problems	analyzing and documenting business activities	IE5
	identifying opportunities for and designing process improvement	IE6
to be able to apply various tools for management of information systems projects	innovating by exploiting an emerging method or technology	IE4
to be able to develop innovative decisions for IT business creation and support	developing business plan	IE3
	ability of identifying success factors of the organization (innovations and entrepreneurial opportunities)	IE9
to be able to think systematically when analysing different situations, solving problems and tasks	developing business plan	IE3
to be able to apply the acquired knowledge creatively	applying creative problem-solving in technology related issues	IE7

1	2	3
to be able to work efficiently in a group, manage the team, and act collectively	ability of connecting and integrating knowledge from different fields of study (interdisciplinary)	IE8
to be able to understand the impact of information systems solutions on the society and environment and their economic aspects	ability of connecting and integrating knowledge from different fields of study (interdisciplinary)	IE8

Tabl.7

Innovation and Entrepreneurship course Projects Learning Outcomes

Themes	***Practical component***	***Learning Objectives***	***Learning Outcomes***	
			Professional	**Transferable Skills**
1	**3**	**4**	**5**	**6**
Topic 1. The introduction to Innovation and Entrepreneurship course		To understand the main idea of the course	**IE 1_** strong theoretical knowledge in - innovation, - entrepreneurship, - organizational theory, - management in relation to information systems	**IE8,** **IE9** **IE10**
Topic 2. The Entrepreneurial Mindset, Skills of Successful Innovators and creative problem-solving	Approaches creative problem-solving	To understand the Entrepreneurial Mindset, Skills of Successful Innovators and creative problem-solving	**IE 2_** understanding both the evolution of the companies and possible routes of their rapid future development	**IE8,** **IE9** **IE10**
			IE6_ identifying opportunities for and designing process improvement	
			IE7_ applying creative problem-solving in technology related issues	
Topic 3. The concept of Business Idea and Business reconfiguration	Development of business idea	To understand concept of Business Idea and Business reconfiguration	**IE4_** developing business plan	**IE8,** **IE9** **IE10**
			IE6_ identifying opportunities for and designing process improvement	
			IE7_ applying creative problem-solving in technology related issues	

1	2	3	4	5
Topic 4. Introduction to the Analysis of Business Processes	The approaches to analysis of business processes	To learn how to do the Analysis of Business Processes	**IE5**_ analyzing and documenting business activities	**IE8, IE9 IE10**
			IE_3 developing business plan	
Topic 5. Practical tools to evaluate entrepreneurial opportunities	Application of Practical tools to evaluate entrepreneurial opportunities	To learn how to apply Practical tools to evaluate entrepreneurial opportunities	**IE 4**_ innovating by exploiting an emerging method or technology	**IE8, IE9 IE10**
			IE7_ applying creative problem-solving in technology related issues	
			IE7_ applying creative problem-solving in technology related issues	
Topic 6. Developing business plan for innovative idea	Development of business plan	To learn how to release and iteration project progress	**IE 3**_ developing business plan	**IE8, IE9 IE10**
			IE_5 analyzing and documenting business activities	
			IE_6 identifying opportunities for and designing process improvement	

Tabl.8

Characteristics of Learning Outcomes for Innovation and Entrepreneurship course

Course Learning Outcomes	Code of Learning Outcomes	Knowledge	Skills	Transferable Skills
strong theoretical knowledge in - innovation, - entrepreneurship, - organizational theory, - management in relation to information systems	IE 1	X		
understanding both the evolution of the companies and possible routes of their rapid future development	IE 2	X		
developing business plan	IE 3		X	
innovating by exploiting an emerging method or technology	IE 4		X	
analyzing and documenting business activities	IE 5		X	
identifying opportunities for and designing process improvement	IE 6		X	
applying creative problem-solving in technology related issues	IE7		X	
ability of connecting and integrating knowledge from different fields of study (interdisciplinary)	IE8			X
ability of identifying success factors of the organization (innovations and entrepreneurial opportunities)	IE9			X
analytical ability of defining reasons for certain situation in the organization	IE10			X

Recommended or required reading

Main:

1. Innovation and Entrepreneurship Peter F. Drucker 2006
2. Innovation and Entrepreneurship, 3rd Edition John Bessant, Joe Tidd, 2015
3. The 20 Most Innovative Startups In Tech, http://www.businessinsider.com/20-innovative-startups-2011-11/#codecademy-is-the-easiest-way-to-learn-javascript-1, 2011
4. https://strategyzer.com/canvas/business-model-canvas
5. Fundamentals of Business Process Management, Marlon Dumas, Marcello La Rosa, Jan Mendling,Hajo A. Reijers, 2013
6. Business Process Management Practical Guidelines, Jeston J., Nelis J., 2012
7. https://businessanalystlearnings.com/technology-matters/2014/7/25/popular-business-analyst-software-tools
8. Strategic Management Theory: An. Integrated Approach, Ninth Edition. Charles W. L. Hill and Gareth R. Jones.
9. Case Harvard Business School "Global Wine Wars: New World Challenges Old"
10. Case Harvard Business School "Zara: Fast Fashion"

Additional:

1. Jürgen Hauschildt, Sören Salomo (2011), Innovationsmanagement, Vahlen, 410 pp.
2. Amabile, T. (2006) 'How to kill creativity', in Henry, J. Creative Management and Development, 3rd Edition, London, Sage.
3. Kirton, M. (2003) Adaption-Innovation in the Context of Diversity and Change, Hove, Routledge.
4. David Horth, Center for Creative Leadership and Dan Buchner, Continuum (2014)Innovation Leadership How to use innovation to lead effectively, work collaboratively, and drive results

Planned learning activities and teaching methods

- Classes will be integrated with students' direct involvement in teaching activities. Students will be subdivided into groups of 3-5 people and they will be asked to rehearse course content with teaching cases.
- The groups will be also responsible for the development of projects in certain topics

Assessment methods, criteria and regime

- Class participation 30% (participation and presentation of minimum 2 case studies and three in-class discussions)
- Project 40% (Preparation of the project 70% and its presentation (30%)). The group responsible for the project will get the total grade. Students will distribute the grade among the group members internally.
- Written exam 30%