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**Establishing Modern Master-level Studies in Information Systems
561592-EPP-1-2015-1- FR-EPPKA2-CBHE-JP**

**WP2
Curriculum development
(IT – infrastructure)
Draft V2.0
(to be updated)**

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
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

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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	Data Bases and Data Warehouses	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							x	
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							x	

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1	2		4		6	7	8	9
to understand problems of users of information systems, to be able to identify, analyse and specify user requirements							x	
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							x	
to be able to apply various methods of information systems design							x	
to be able to apply methods of knowledge, metadata analysis and information safety engineering							x	

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1	2		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							x	
to be able to apply various tools for management of information systems projects								
to be able to develop innovative decisions for IT business creation and support								

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1	2		4		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								
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								
to be able to understand the impact of information systems solutions on the society and environment and their economic aspects							x	

Tabl.5

Course Descriptors

Course title:	IT – infrastructure
Course unit code	ITIS
Course Program:	MPIS
University delivering the course:	VNTU
Type of course unit	Core course
Level of course unit	Masters level
Number of ECTS credits allocated	5 Credits (150 hours of student work)
Mode of delivery	lectures, workshop, business games, independent work, distance learning...

Module Structure:

No	Type	Course	CP (h)	Presence (h)	Self-Study (h)
1	Course	IT – infrastructure	150	40	110

Relevant Work:

Number and Type; Connection to Course	Duration	Part of final mark in %
Final Written Exam	120 min.	60 %
4 Exercises, case study with presentation	Each 10 pages + 20 min. presentation	40 %

List of Course Learning Outcomes for IT infrastructure (ITIS)

Code of Learning Outcomes	Course Learning Outcomes
ITIS1	to know the basic notions, designations and components of IT- infrastructure
ITIS 2	to know the basic types of IT- infrastructure solutions and to understand the methods of their optimal selection
ITIS 3	to understand the information politics and to know the fundamental laws and legislation acts for relevant infrastructure solutions
ITIS 4	to be able to apply international and national standards in the process of creation and usage of IT- infrastructure
ITIS 5	to understand the ways of services rendering from the information services providers
ITIS 6	to understand the basic methods of IT- infrastructure monitoring and control
ITIS 7	to understand the necessity and the ways of new information technologies monitoring
ITIS 8	to understand the sources of infrastructure risks and methods of their reduction

Tabl.6

Correlation matrix of Programme Learning Outcomes and IT infrastructure (ITIS) Course Learning Outcomes

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Programme Learning Outcomes	Course Learning Outcomes	Code
1	2	3
to understand essential concepts, facts, principles, and theories of information system	to know the basic notions, designations and components of IT- infrastructure	ITIS 1
	to know the basic types of IT- infrastructure solutions and to understand the methods of their optimal selection	ITIS 2
	to understand the information politics and to know the fundamental laws and legislation acts for relevant infrastructure solutions	ITIS 3
	to understand the sources of infrastructure risks and methods of their reduction	ITIS 8
to understand the diversity and state-of-the-art in area of information system	to know the basic types of IT- infrastructure solutions and to understand the methods of their optimal selection	ITIS 2
	to understand the basic methods of IT- infrastructure monitoring and control	ITIS 6
	to understand the necessity and the ways of new information technologies monitoring	ITIS 7
	to understand the sources of infrastructure risks and methods of their reduction	ITIS 8
to be able to analyse, model, and evaluate organization's business processes from the perspective of information systems development	to understand the information politics and to know the fundamental laws and legislation acts for relevant infrastructure solutions	ITIS 3
	to understand the ways of services rendering from the information services providers	ITIS 5
	to understand the sources of infrastructure risks and methods of their reduction	ITIS 8
to be able to apply various methods of information systems analysis	to understand the basic methods of IT- infrastructure monitoring and control	ITIS 6

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	to understand the sources of infrastructure risks and methods of their reduction	ITIS 8
to understand problems of users of information systems, to be able to identify, analyse and specify user requirements	to know the basic types of IT- infrastructure solutions and to understand the methods of their optimal selection	ITIS 2
	to understand the sources of infrastructure risks and methods of their reduction	ITIS 8
to be able to manage information systems development projects and identify, analyse, evaluate, and solve the arising management problems	to know the basic types of IT- infrastructure solutions and to understand the methods of their optimal selection	ITIS 2
	to understand the information politics and to know the fundamental laws and legislation acts for relevant infrastructure solutions	ITIS 3
	to be able to apply international and national standards in the process of creation and usage of IT- infrastructure	ITIS 4
	to understand the sources of infrastructure risks and methods of their reduction	ITIS 8
to be able to apply various methods of information systems design	to know the basic types of IT- infrastructure solutions and to understand the methods of their optimal selection	ITIS 2
	to understand the information politics and to know the fundamental laws and legislation acts for relevant infrastructure solutions	ITIS 3
	to be able to apply international and national standards in the process of creation and usage of IT- infrastructure	ITIS 4
to be able to apply methods of knowledge, metadata analysis and information safety engineering	to understand the sources of infrastructure risks and methods of their reduction	ITIS 8
	to understand the information politics and to know the fundamental laws and legislation acts for relevant infrastructure solutions	ITIS 3

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	to be able to apply international and national standards in the process of creation and usage of IT- infrastructure	ITIS 4
to be able to identify, find and evaluate information relevant to information systems by using data bases and other sources of information	to understand the necessity and the ways of new information technologies monitoring	ITIS 7
to be able to develop innovative decisions for IT business creation and support	to understand the necessity and the ways of new information technologies monitoring	ITIS 7
to be able to apply the acquired knowledge creatively	to understand the necessity and the ways of new information technologies monitoring	ITIS 7
to be able to understand the impact of information systems solutions on the society and environment and their economic aspects	to understand the necessity and the ways of new information technologies monitoring	ITIS 7

Tabl.7

IT – infrastructure Learning Outcomes

Themes	Theoretical component	Practical component	Learning Objectives	Learning Outcomes	
				Professional	Personal & Social
MODULE 1. General characteristic of IT-infrastructure					
1	2	3	4	5	6
Topic 1.1. Basic definition and components of «IT-infrastructure»	The main sub-topic 1.1.1. Definition of the notion «IT-infrastructure». 1.1.2. Examples of IT-infrastructure. 1.1.3 Lifecycle of IT-infrastructure. 1.1.4 Data storage infrastructure. 1.1.5. Infrastructure of data processing center (DPC) 1.1.6. Software infrastructure.	Lab 1: Analyses of IT infrastructure of company	To learn about definition and examples of IT-infrastructure global information infrastructure, information infrastructure of the state, distance learning, networking mass media; lifecycle of IT-infrastructure: creation, use, modernization; data storage organization and networks; storage devices of data storage systems, reliability of data storage; Infrastructure of data processing center (DPC), basic servers platforms of DPC, computational infrastructure of DPC, network infrastructure of DPC, engineering infrastructure of DPC; composition and designation of IS software, standard and specialized software, trends of IS software development.	ITIS 1 To know the basic notions, designations and components of IT-infrastructure ITIS 2 to know the basic types of IT- infrastructure solutions and to understand the methods of their optimal selection	ITIS 7

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Topic 1.2. Standards, politics, basic laws and legislation acts for corresponding infrastructure solutions	The main sub-topic 1.2.1. Intellectual property. 1.2.2. Taxation of the activity of IT companies 1.2.3 Standards in the sphere of IS	Lab 2: Development of structured schema of basic documents relations	To learn about competition between the norms of Civil Code of Ukraine and special laws in IS, peculiarities of realization and protection of intellectual property in electronic form, disposal of properly rights on data bases, forms of rewards for usage of the object of intellectual property; IS audit and assurance standards, ISO management system standards, security standards, Control Objectives for Information and Related Technologies (CobIT) standards.	ITIS 3 to understand the information politics and to know the fundamental laws and legislation acts for relevant infrastructure solutions ITIS 4 to be able to apply international and national standards in the process of creation and usage of IT-infrastructure	ITIS 7
MODULE 2. Analyses and monitoring of IS solutions					
1	2	3	4	5	6
Topic 2.1. Infrastructure vendors	The main sub-topic 2.1.1. Infrastructure contracts 2.1.2. Virtual solutions and cloud services	Lab 3: Development of recommendation to selection of infrastructure vendors	To learn the interaction of information infrastructure and vendors of IS, types of contracts and agreements, content of agreements: Spin contract, Fixed Price / Fixed Scope, Time and Materials, Time and Materials with fixed scope and limited expenses, Time and Materials with Variable Scope and limited expenses, Bonuses and penalties, Fixed income, Joint-ventures; advantages and disadvantages of infrastructure outsourcing; Service Level Agreement (SLA); management of IT-infrastructure; basic notions and definitions of virtualization, advantages and disadvantages of virtualization. Types of	ITIS 5 to understand the ways of services rendering from the information services providers	ITIS 7

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			virtualization, virtualization of platforms and virtualization of resources, means of virtualization; cloud services.		
Topic 2.2. Infrastructure risks	The main sub-topic 2.2.1. Notions and sources of information risks 2.2.2. Systems of IS monitoring and control. 2.2.3. The influence of Information security to Infrastructure risks 2.2.4. Unified communication	Lab 4: Analyses of company's IT infrastructure risks	To learn about essence of monitoring in the system of IS control, requirements to IS monitoring system, systems of IS monitoring support; infrastructure risks: technological, financial, technical, integration risks; methods of information risks assessment; the influence of Information security to Infrastructure risks; monitor infrastructure status from multiple perspectives and take appropriate action in case of irregularities; design and document appropriate processes for risk analysis and management.	ITIS 6 to understand the basic methods of IT-infrastructure monitoring and control ITIS 8 to understand the sources of infrastructure risks and methods of their reduction	ITIS 7
Topic 2.3. Monitoring of New Technologies	The main sub-topic 2.3.1 Essence and means of new information technologies monitoring	Analytical paper: New technologies in some aspect of IT infrastructure	To learn the requirements to IT monitoring system, means of IT monitoring support.	ITIS 7 to understand the necessity and the ways of new information technologies monitoring	ITIS 7

Tabl.8

Characteristics of Learning Outcomes for IT infrastructure

Course Learning Outcomes	Code of Learning Outcomes	Knowledge	Skills	Communication	Autonomy and responsibility
1	2	3	4	5	6
To know the basic notions, designations and components of IT- infrastructure	ITIS 1	Basic notions, designations and components of IT- infrastructure	Analyze IT infrastructure of company	Ability to <i>explain</i> basic notions, designations and composition of IT- infrastructure	
To know the basic types of IT- infrastructure solutions and to understand the methods of their optimal selection	ITIS 2	Basic types of IT- infrastructure solutions and to understand the methods of their optimal selection	Choose the type of IT- infrastructure solution	Ability to <i>explain</i> basic types of IT- infrastructure solutions and to <i>demonstrate</i> the methods of their optimal selection	Ability to <i>make decisions</i> on the choose of the type of IT- infrastructure solution
To understand the information politics and to know the fundamental laws and	ITIS 3	Information politics and to know the fundamental laws and	Use the laws, legislation acts and corporate information politics	Ability to <i>explain and discuss</i> the information politics,	Be <i>responsible</i> on the use the laws, legislation acts and

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legislation acts for relevant infrastructure solutions		legislation acts for relevant infrastructure solutions		fundamental laws and legislation acts for relevant infrastructure solutions	corporate information politics
To be able to apply international and national standards in the process of creation and usage of IT- infrastructure	ITIS 4	International and national standards in the process of creation and usage of IT- infrastructure	Apply international and national standards in the process of creation and usage of IT- infrastructure	Ability to <i>explain and discuss</i> the international and national standards in the process of creation and usage of IT- infrastructure	Be <i>responsible on the</i> application of international and national standards in the process of creation and usage of IT- infrastructure
To understand the ways of services rendering from the information services providers	ITIS 5	Ways of services rendering from the information services providers	Contract the information services providers	Ability to <i>explain, discuss and justify the</i> ways of services rendering from the information services providers, <i>demonstrate</i> information service contract	Ability to <i>make decisions</i> on contract the information services providers and be <i>responsible of it</i> effects
To understand the basic methods of IT- infrastructure monitoring and control	ITIS 6	Basic methods of IT- infrastructure monitoring and control	Choose a method of IT- infrastructure monitoring and control	Ability to <i>explain, discuss and demonstrate</i> basic methods of IT- infrastructure monitoring and control	Ability to <i>make decisions</i> on the choose of the method of IT- infrastructure monitoring and control

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To understand the necessity and the ways of new information technologies monitoring	ITIS 7	Ways and methods of new information technologies monitoring	Monitor of the new information technologies	Ability to <i>explain</i> the necessity and <i>demonstrate</i> methods of new information technologies monitoring	Be <i>responsible</i> on the monitoring of the new information technologies
To understand the sources of infrastructure risks and methods of their reduction	ITIS 8	Sources of infrastructure risks and methods of their reduction	Analyze the sources of infrastructure risks and choose the methods of their reduction	Ability to <i>explain and discuss</i> the sources of infrastructure risks and methods of their reduction	Ability to <i>make decisions</i> on the choose the methods of infrastructure risks reduction

Recommended or required reading

Main:

1. Bernard, Scott A.; Introduction to Enterprise Architecture; Publisher: authorHOUSE™; 2005
2. James O'Reilly Network Storage // Elsevier / Morgan Kaufmann. - 2016, 280 p.
3. Todd Lammle, Todd Montgomery CCNA Data Center: Introducing Cisco Data Center Technologies Study Guide // Publisher: Wiley/Sybex, 2016, 288 p.
4. Rick van der Lans Data Virtualization for Business Intelligence Systems // Elsevier / Morgan Kaufmann.-2012, 296 p.
5. Gillam, Lee Cloud Computing: Principles, Systems and Applications / Nick Antonopoulos, Lee Gillam — L.: Springer, 2010. — 379 p. — (Computer Communications and Networks). — ISBN 9781849962407
6. Harris Michael D. S., Herron David, Iwanicki Stasia. The Business Value of IT: Managing Risks, Optimizing Performance and Measuring Results. CRC Press, 2008

Additional:

1. Олейник А. И., Сизов А. В. ИТ-инфраструктура [Текст]: учеб.-метод. пособие / А. И. Олейник, А. В. Сизов; Нац. исслед. ун-т «Высшая школа экономики». — М.: Изд. дом Высшей школы экономики, 2012. — 134 с.
2. Cisco, Cisco Data Center Infrastructure 2.5 Design Guide, Cisco Press, 2010.
3. Mark Williams - A Quick Start Guide to Cloud Computing: Moving Your Business Into the Cloud. // Kogan Page , 2010 , 152 pp
4. Зайнуллин С.Б. Корпоративная безопасность: Учебное пособие. - М., 2016. - 124 с.
5. Кожушко Р.Ю. Інтелектуальна власність: навчальний посібник/ Р.Ю.Кожушко, М.В.Колосніченко, І.П.Остапчук та ін. — К.: КНУТД, 2014. — 108 с.
6. COBIT Quickstart
7. COBIT 4.1 Excerpt
8. COBIT Security Baseline
9. COBIT Control Practices
10. COBIT Control Objectives
11. COBIT Mapping: Mapping of ISO/IEC 20000 with COBIT 4.1 (e-book)
12. COBIT Mapping: Mapping of CMMI for Development V1.2 with COBIT 4.1 (e-book)
13. COBIT Mapping: Mapping of CMMI for Development V1.2 With COBIT 4.0 (e-book)
14. COBIT Mapping: Mapping FFIEC with COBIT 4.1 (e-book)
15. COBIT Mapping: Mapping ITIL V3 With COBIT 4.1 (e-book)
16. COBIT Mapping: Mapping PMBOK to COBIT 4.0 (e-book)
17. ISO/IEC 15288:2008 System and software engineering - System life cycle processes.

18. ISO/IEC 42010 IEEE Std 1471-2000 System and software engineering - Recommended practice for architectural description of software-intensive systems.
19. ISO/IEC 90003:2004 Software engineering - Guidelines for the application of ISO 9001:2000 to computer software.
20. ISO/IEC TR 90005:2008 Software engineering - Guidelines for the application of ISO 9001:2000 to system life cycle processes.
21. ISO/IEC 9126-1÷4:2001÷2006 Software engineering - Product quality - Part 1÷4
22. ISO/IEC 25051:2006 Software engineering - Software product Quality Requirements and Evaluation (SQuaRE) -Requirements for quality of Commercial Off-The-Shelf (COTS) software product and instructions for testing.
23. IEEE 829-2008 Standard for Software and System Test Documentation.
24. ISO/IEC 14598-1÷6:1999÷2001 Information technology - Part 1÷6.
25. Бармен Скотт. Разработка правил информационной безопасности. М.: Вильямс, 2002. — 208 с. — [ISBN 5-8459-0323-8](#), [ISBN 1-57870-264-X](#)

Internet based materials:

1. Managed Infrastructure Lifecycle Solution Overview // Fujitsu Technology Solutions, 2014 https://www.fujitsu.com/au/Images/ffs-managed-infrastructure-lifecycle-solution_tcm98-913189.pdf
2. Standards for the installation of communications infrastructure at CHARLES STURT UNIVERSITY // Release 8.7 – February 2015 http://www.csu.edu.au/_data/assets/pdf_file/0006/1314699/Communications-Standards.pdf
3. Рекомендации по управлению ИТ инфраструктуры на основе ITIL и моделей ITSM [Элек-тронный ресурс]. URL: <http://www.topsbi.ru/?trID=128> (Дата обращения 19.02.13).
4. Рекомендации по контролю работоспособности ИТ-инфраструктуры от IBM [Электронный ресурс]. URL: <http://www.cybersecurity.ru/programm/34942.html> (Дата обращения 21.02.13).
5. Links & references on standards and other documents are at <https://web.archive.org/web/20120330142527/http://is-standard.com:80/>

Planned learning activities and teaching methods

The primary means of learning for student is through practice. This is supported and developed

through:

1. Project briefings.
2. Set and self-initiated project briefs.
3. Peer learning.
4. Self and peer assessment.
5. Guest speakers.
6. Group discussions, reviews and critiques;
7. Working on live projects;
8. Mentoring;
9. Blended learning, part of themes can be move to such study form
10. Independent study.

For flexible and distributed learning

Web-based sessions lead by instructor provide methodological and conceptual framework for students' learning. All the slides and materials from the class will be available electronically.

Web-based seminars will be used to strengthen the knowledge of newly learned methods and concepts, and to explore their application to particular complex business cases.

Students are encouraged to ask questions and discuss the material in "live" mode online. There will be a web-based message board for the course. Students are welcome to post questions on this board and these discussions will be monitored and facilitated by the lecturer. The main accent will be made on independent learning

Assessment methods, criteria and regime

Progress and learning is assessed not only at the end but throughout the entire course. Evidence of an ability to think through and critically analyze challenges will be highly rewarded in the assessment.

Students' grades will be determined by individual **Assignments**, based on description of the key idea, normative regulation and steps necessary to build innovation pipeline and supply it with ground-breaking ideas.

In the overall assessment, distance learning courses at MOOC platforms (Coursera, Prometheus, MIT etc.) for individual topics.

- The relative weight of **Assignment Brief for main** kind of activities will be set at 100%. It will be marked on the basis of: Analytical works and projects 40%; Theory learning (by results of exam) – 35%; Laboratory work 25%. The part of theory learning outcomes could be replaced by received certificates at MOOC platforms
- The relative weight of **Assignment Brief for analytical works** will be set at 100%. It will be marked on the basis of: The aim of the report clearly formulated 20%; Coherence of the arguments and reflection 10%; Reflection based entirely on the description of facts and events 40%; Utilization of adequate terminology to describe the project management 20%; Evidence of activities undertaken

Specialized facilities and/or equipment essential for the delivery of the course

Specialized facilities and/or equipment essential for the delivery of the course include examples of hardware and software of IT infrastructure (Local computer net, Internet connection, Cloud database and software resources, Elements of security system etc.