

Subject	Modern Information Technologies			
	Type	Semester	ECTS	Code
	MANDATORY (M)	3	6	
Course Lecturer				
Aims and Objectives	<p>This course is focused on the technologies that enable the companies to stay relevant or even thrive in a turbulent business environment and their practical application. Emerging technologies are characterized by novelty, relatively fast growth, prominent impact, and uncertainty. They are the tools that enable upstarts to disrupt whole industries.</p> <p>During the course, we will develop an understanding of enabling technologies, their impact on business, and applicability in different business scenarios as well as how to ensure their scalable implementation and proper architecture planning. Modern Web, Cloud Computing, Big Data, Artificial Intelligence, Internet of Things, Robotics and Virtual Reality are some of the topics we will go through.</p>			
Learning Outcomes	<p>In the end of the course students will be able to:</p> <ul style="list-style-type: none"> • form a holistic picture of the role of technologies in modern business; • reason about the applicability of particular technology in a business context; • work on a business technology strategy; • effectively collaborate with technical departments and/or external vendors. 			
Course Content	Course Plan			Week
	What is enabling technology: AI, Machine Learning, Big Data			1
	Trends and Evolution of business environment			2
	Rethinking product development: Lean Startup, Design Thinking, Jobs to be Done; A/B testing, Bandit Algorithms, Analytics, Data Science, Big Data			3
	Rethinking product engineering: Agile, DevOps, Continuous Delivery; Micro-services, Containers & their orchestration, Cloud, Serverless			4
	Rethinking user experience: Modern web, mobile, wearables, conversational interfaces, omnichannel			5
	Mechanics of digital disruption			6
	Introduction to Cloud Computing			7
	Public cloud providers			8
	Economics of the cloud (x2)			9
	Multi-cloud & hybrid cloud strategies (x2)			10
	AR/VR			11
	Computer Vision			12
Internet of Things			13	

	Robotics			14	
	Quantum Computing			15	
Teaching/Learning Methods	Teaching/Learning Activity			Weight (%)	
	1.	Lectures		20%	
	2.	Seminars		20%	
	3.	Laboratory		20%	
	4.	Case studies		40%	
	5.	Role play		-	
	6.	Problem-based learning		-	
	7.	Study visits		-	
	8.	Work placement		-	
Assessment Methods	Assessment Activity		Number	Week	Weight (%)
	1.	Quiz	1	7	15%
	2.	Group Project	1	12	35%
	3.	Midterm Exam	1	8	20%
	4.	Final Exam	1	13	30%
Course resources	Resources			Number	
	1.	Class		1	
	2.	Laboratory		1	
	3.	Moodle		1	
	4.	Projector		1	
ECTS Workload	Activity		Weekly hrs	Total workload	
	1.	Lectures	2	24	
	2.	Seminars	2	24	
	3.	Laboratory	2	24	
	4.	Practice in Industry	1	5	
	5.	Self-learning	8.25	99	
	6.	Exams	2	4	
Literature/References	- Strategic Management of Technological Innovation by Melissa Schilling, 6th ed., 2020, McGraw-Hill Education. ISBN13: 978-1260087956				
	- The Innovator's DNA: Mastering the Five Skills of Disruptive Innovators by Jeff Dyer, Hal Gregersen, and Clayton M. Christensen, 2011, Harvard Business School				
	Disruption: Emerging Technologies and the Future of Work, Victor Del Rosal 2015. ISBN13: 978-1-4221-3481-8				
Contact					