DIGITALNE STRATEGIJE IN DIGITALNI POSLOVNI MODELI
UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Digitalne strategije in digitalni poslovni modeli
Course title:	Digital strategies and digital business models
Članica nosilka/UL Member:	UL FRI

Študijski programi in stopnja	**Študijska smer**	**Letnik**	**Semestri**	**Izbirnost**
Računalništvo in informatika, druga stopnja,	Digitalna transformacija in kibernetska varnost	1	1. semester	izbirni

Univerzitetna koda predmeta/University course code:	
Koda učne enote na članici/UL Member course code:	

Predavanja /Lectures	**Seminar /Seminar**	**Vaje /Tutorials**	**Klinične vaje /Clinical tutorials**	**Druge oblike študija /Other forms of study**	**Samostojno delo /Individual student work**	**ECTS**
45	10	20			105	6

Nosilec predmeta/Lecturer:	Tomaž Hovelja
Vrsta predmeta/Course type:	izbirni predmet/elective course

Jeziki/Languages:	Predavanja/Lectures:	Slovenščina
	Vaje/Tutorial:	Slovenščina

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites:**

Vsebina:	**Content (Syllabus outline):**
Predavanja: Predmet se osredotoča na poglobljeno predstavitev sodobnih digitalnih strategije in digitalnih poslovnih modelov. Preučili bomo kako nove disruptivne informacijske tehnologije vplivajo na digitalizacijo poslovnih procesov, oblikovanje digitalnih produktov in storitev ter vstopanje na nove trge. V ta namen bomo: • Podrobno spoznali koncepte kot so digitalna preobrazba podjetja, industrija 4.0, družba 5.0, pametna tovarna, pametna logistika -integrirana veriga dodane vrednosti. • Preučili digitalne poslovne modele (platforme, naročnine, prosta dostopnost, dostopnost po potrebi, doživetja…) in z njimi povezana digitalna preoblikovanja podjetij skozi njihove ključne dimenzije. Te so:	**Lectures:** The course focuses on an in-depth study of modern digital strategies and digital business models. The course will examine how new disruptive information technologies enable digitalization of business processes, the design of digital products and services, and entering new markets. To this end, we will: • Learn about concepts such as digital transformation of the company, industry 4.0, society 5.0, smart factory, smart logistics - integrated value chain. • Examine digital business models (platforms, subscriptions, free accessibility, accessibility on demand, experiences...) and related digital transformations of companies through their key dimensions. These are:

• poslovne domene digitalne preobrazbe (kupci, konkurenca, podatki, inovativnost, ustvarjena dodana vrednost) • sodobne disruptivne informacijske tehnologije, ki predstavljajo tehnološko osnovo digitalne preobrazbe podjetij (internet stvari, masivni podatki, digitalni dvojčki, umetna inteligenca, računalništvo v oblaku, 3D-tiskanje, Blockchain, Edge…). • agilne organizacijske in managerske prakse (osnovni principi digitalne preobrazbe, pristopi industrije 4.0, kanvas metodologija, osredotočenje na kupca, agilni pristopi k (re)organizaciji podjetij …) • digitalne socialne veščine (strateški pogled, inovativnost, e-vodenje, timsko delo, tehnike komunikacije in pogajanj…). Preučili primere dobrih praks in pristopov k oblikovanju digitalne strategije podjetja (izkušnja kupca, podatkovna strategija, procesi in digitalne rešitve za podporo poslovanja, digitalni poslovni modeli, produkti in storitve, načrt razvoja digitalnih kadrov in digitalnih delovnih mest, načrt razvoja digitalne kulture, kibernetska varnost…) in izvedbi implementacije digitalne preobrazbe v različnih panogah. **Vaje:** Namen vaj je dvojen: 1. Naučiti študente kako pripraviti digitalno strategijo za specifično podjetje 2. Naučiti študente kako ovrednotiti digitalno strategijo specifičnega podjetja **Delo izven kontaktnih ur:** Študenti skladno z navodili na vajah pripravijo in ovrednotijo digitalne strategije za specifična podjetja.	• business domains of digital transformation (customers, competition, data, innovation, created added value) • modern disruptive information technologies that represent the technological basis for digital transformation (IoT, Big Data, Digital twins, AI, Cloud computing, 3D-printing, Blockchain, Edge ...). • agile organizational and managerial practices (basic principles of digital transformation, Industry 4.0 approaches, canvas methodology, customer focus, agile organizational frameworks...) • digital social skills (strategic view, innovation, e-leadership, teamwork, communication and negotiation techniques…). • Study examples of good practices and approaches to the design of the company's digital strategy (customer experience, data strategy, processes and digital solutions for business support, digital business models, products and services, digital HR and digital jobs development plan, digital culture development plan, cyber security...) and the implementation of digital transformation in various industries. **Laboratory practice:** The purpose of the lab practices is twofold: 1. Teach students how to prepare a digital strategy for a specific company 2. Teach students how to evaluate the digital strategy of a specific company **Individual work outside of contact hours:** Students prepare and evaluate digital strategies for specific companies in accordance with the instructions in the exercises.

Temeljna literatura in viri/Readings:

Dieffenbacher, Hüttinger, Zaninelli, Lines, Rein. How to Create Innovation: The Ultimate Guide to Proven Strategies and Business Models to Drive Innovation and Digital Transformation 1st Edition, Wiley, 2024.
Prabhu, Amit: Digital Strategy Framework: A Practical Guide for Incumbents, Business Expert Press, LLC, 2024
Rogers, David L., The digital transformation playbook : rethink your business for the digital age, Columbia University Press, 2016.
Cordon, Garcia-mila, Ferreiro Vilarino and Caballero: Strategy is Digital: How Companies Can Use Big Data in the Value Chain, Springer 2016
Robert Obermaier: Industrie 4.0 als unternehmerische Gestaltungsaufgabe: Betriebswirtschaftliche, technische und rechtliche Herausforderungen 1. Aufl. 2016 Edition,
Robert Obermaier: Handbuch Industrie 4.0 und Digitale Transformation: Betriebswirtschaftliche, technische und rechtliche Herausforderungen
Erasmus+ I4EU – Project: Key competences for an European model of Industry 4.0

Cilji in kompetence:	**Objectives and competences:**
Cilj predmeta je študente seznaniti s ključnimi koncepti digitalnih strategij in poslovnih modelov ter poslovnimi, tehničnimi, organizacijskimi, managerskimi in socialnimi tehnikami, ki tvorijo ogrodje digitalne preobrazbe podjetja. Na ta način bodo pridobili potrebne kompetence za samostojno pripravo digitalno strategijo za podjetje in načrta njene implementacije. Pri predmetu bodo študenti pridobili ključne organizacijske, managerske in socialne kompetence štirih profilov za EU I4.0 sektor, kot so določeni v EQF in ECVET kompetenčnem ogrodju. Te so: • Management digitalne preobrazbe • Strateški pogled • Učinkovito delo v ekipi za digitalno transformacijo • Razumevanje digitalnih strategij • Razumevanje poslovnih modelov in kanvas metodologije	The aim of the course is to familiarize students with the key concepts of digital strategies and business models, as well as business, technical, organizational, managerial and social techniques that form the framework of the digital transformation of the company. This will empower them to independently prepare a digital strategy for the company and develop a plan for its implementation. In the course, students will acquire key organizational, managerial and social competencies of the four profiles from the EU I4.0 sector, as defined in the EQF and ECVET Competency Frameworks. These are: • Digital Transformation Management • Strategic view • Effective work in a digital transformation team • Understanding digital strategies • Understanding business models and canvas methodology

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: Študent osvoji tehnike načrtovanja in izvedbe digitalne preobrazbe, pridobi strateški pogled na razvoj podjetja in njihovih organizacij, spozna veščine uspešnega delovanja v projektni ekipi za izvedbo kompleksnih projektov digitalne prenove. **Uporaba:** Predmet je povezan s poslovno prakso. Na vajah bodo študentske ekipe za specifična podjetje pripravila digitalne strategije in jih ovrednotila. **Refleksija:** Študent bolje razume spremembe, ki jih digitalizacija podjetij prinaša v evropska gospodarstva, pridobi sposobnost kritičnega ovrednotenja različnih digitalnih strategij in poslovnih modelov, razume (ne)skladnosti med teoretičnimi koncepti in praktičnim ravnanjem podjetij. **Prenosljive spretnosti:** Študent pridobi kompetence iz organizacijskih in socialnih veščin I4.0 profilov Junior Operations Manager, Junior Business Strategist, Junior Tech Professional in Junior Talent Manager kot definiranih v I4EU Handbook Key competences for an european model of Industry 4.0. Poleg tega pridobi izkušnje z delom v projektih digitalne prenove ter izboljša razumevanje trendov na področju digitalizacije podjetij ter splošno sposobnost kritičnega razmišljanja.	**Knowledge and understanding:** The student familiarizes with the techniques for planning and implementing digital transformation in companies, acquires a strategic view of the development of companies and their organizations, learns the necessary skills for efficient and effective work in digital transformation project teams. **Application:** The course aims to simulate business practice. In the exercises, student teams will develop digital strategies for specific companies and evaluate them. **Reflection:** The student will improve his/her understanding of the changes that the digitalization of enterprises brings to economies, the student will acquire the skills needed for critical evaluation of digital strategies and digital models and understand the (mis)fit between theoretical concepts and practical conduct of companies. **Transferable skills:** The student acquires competencies from the organizational and social skills of the I4.0 profiles of Junior Operations Manager, Junior Business Strategist, Junior Tech Professional and Junior Talent Manager as defined in the I4EU Handbook Key competences for an European model of Industry 4.0. In addition, they gain experience conducting digital transformation projects, improve their understanding of trends in the field of digitalization of companies and their general ability to think critically.

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Metode poučevanja in učenja:	Learning and teaching methods:
Predavanja: 3 ure na teden Študenti na predavanjih osvojijo poznavanje in razumevanje predhodno omenjenih in veščin. Na predavanjih uporabljamo študije primerov, video posnetke in, v kolikor možno, obiske znanih podjetij, da bi študentom čim bolj približali podjetniško prakso. **Vaje: 2 uri na teden** Na vajah študenti praktično uporabijo znanje pridobljeno na predavanju. V okviru predmeta za specifično podjetje pripravijo strategijo digitalne preobrazbe. S tem namenom študenti delajo v skupinah. Na koncu predmeta sledi prezentacija pripravljenih strategij digitalne preobrazbe in njihova evalvacija.	**Lectures: 3 hours per week**. In lectures Students gain the previously mentioned knowledge and skills. In the lectures, we use case studies, videos and, if possible, visits to well-known companies in order to bring students as close as possible to entrepreneurial practice. **Tutorials: 2 hours per week.** In the exercises, students practically apply the knowledge gained during lectures. As part of the course, they prepare a digital transformation strategy for a specific company. To this end, students work in groups. At the end of the course, there is a presentation of the prepared digital transformation strategies and their evaluation.

Načini ocenjevanja:	Delež/Weight	Assessment:
Način (pisni izpit, ustno izpraševanje, naloge, projekt):		Type (examination, oral, coursework, project):
Kolokviji ali Izpit	50,00 %	midterm exams or final exam
Projektno delo	50,00 %	Project work
Ocene: 6-10 pozitivno, 5 negativno (v skladu s Statutom UL).		Grading: 6-10 pass, 5 fail (according to the rules of University of Ljubljana).

Reference nosilca/Lecturer's references:

MIHELIČ, Anže, VRHOVEC, Simon, MARKELJ, Blaž, HOVELJA, Tomaž. Delegation-based agile secure software development approach for small and medium-sized businesses. IEEE access. 11 Dec. 2024, vol. 12, str.
MIHELIČ, Anže, VRHOVEC, Simon, HOVELJA, Tomaž. Agile development of secure software for small and medium-sized enterprises. Sustainability. 2023, vol. 15, iss. 1, str. 1-23.
VAVPOTIČ, Damjan, KALIBATIENE, Diana, VASILECAS, Olegas, HOVELJA, Tomaž. Identifying key characteristics of business rules that affect software project success. Applied sciences. Jan. 2022, vol. 12, iss. 2, str. 1-10, ilustr. ISSN 2076-3417.
VAVPOTIČ, Damjan, BALA, Saimir, MENDLING, Jan, HOVELJA, Tomaž. Software process evaluation from user perceptions and log data. Journal of software. Apr. 2022, vol. 34, iss. 4, str. 1-14, ilustr. ISSN 2047-7473.
LEVSTEK, Aleš, PUCIHAR, Andreja, HOVELJA, Tomaž. Towards an adaptive strategic IT governance model for SMEs. Journal of theoretical and applied electronic commerce research. 2022, vol. 17, iss. 1, str. 230-252.
VAVPOTIČ, Damjan, ROBNIK ŠIKONJA, Marko, HOVELJA, Tomaž. Exploring the relations between net benefits of IT projects and CIOs perception of quality of software development disciplines. Business & information systems engineering. [Print ed.]. 2020, vol. 62, no. 4, str. 347-360
HOVELJA, Tomaž, VASILECAS, Olegas, KALIBATIENE, Diana, RUPNIK, Rok. Evaluating organizational characteristics complementary with enterprise software products. Journal of business economics and management : transition processes in Central and Eastern Europe. 2020, vol. 21, no. 3, str. 890-913
LEVSTEK, Aleš, HOVELJA, Tomaž, PUCIHAR, Andreja. IT governance mechanisms and contingency factors : towards an adaptive it governance model. Organizacija : revija za management, informatiko in kadre, ISSN 1318-5454. [Tiskana izd.], nov. 2018, vol. 51, no. 4, str. 286-310.
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https://cris.cobiss.net/ecris/si/sl/researcher/34132 (za prof. dr. Tomaž Hovelja)