UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Upravljanje informacijskih sistemov
Course title:	Information Systems Management

Študijski program in stopnja Study programme and level	Modul Module	Letnik Academic year	Semester Semester
Informacijske in komunikacijske tehnologije, 2. stopnja	Napredne internetne tehnologije	1	2
Information and Communication Technologies, 2nd cycle	Advanced Internet Technologies	1	2

Vrsta predmeta / Course type	Izbirni / Elective

Univerzitetna koda predmeta / University course code:	IKT2-657

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Druge oblike	Samost. delo Individ. work	ECTS
15	15			15	105	5

*Navedena porazdelitev ur velja, če je vpisanih vsaj 15 študentov. Drugače se obseg izvedbe kontaktnih ur sorazmerno zmanjša in prenese v samostojno delo. / This distribution of hours is valid if at least 15 students are enrolled. Otherwise the contact hours are linearly reduced and transfered to individual work.

Nosilec predmeta / Lecturer:	Prof. dr. Vladislav Rajkovič

Jeziki / Languages:	Predavanja / Lectures:	slovenščina, angleščina / Slovenian, English
	Vaje / Tutorial:	

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisites:
Zaključen študijski program prve stopnje s področja naravoslovja, tehnike ali računalništva.	Student must complete first-cycle study programmes in natural sciences, technical disciplines or computer science.

Vsebina:	Content (Syllabus outline):
1) Uvod v informacijske sisteme (IS) Definicija IS. Komponente IS. Procesi v informacijskem sistemu organizacije. Centralizirani in porazdeljeni IS. Splošna teorija sistemov. Sistemski pristop. Vrste in lastnosti sistemov. Entropija sistema. Organizacija kot sistem. Vloga digitalizacije in umetne inteligence. 2) Informacijski sistemi v podjetju Razvoj, prednosti, klasifikacija. Vrste in lastnosti informacijskih sistemov. Vloga IS v sodobni organizaciji. Poslovni procesi in informacijski sistem.	1) Introduction to information systems (IS) The definition of information system. Components of IS. The information system processes. Centralized and distributed IS. The general systems theory. The system approach. Systems attributes and types. System entropy. Organization as a system. The role of digitalisation and artificial inteligence. 2) Information systems in the company Development, advantages, classification. Information systems attributes and types. The role

Celovite programske rešitve. Programske rešitve za sodelovanje. ERP rešitve. CRM sistemi. Dokumentni sistemi. Medorganizacijski informacijski sistemi. Poslovni aplikacijski portali. HRM sistemi.

3) Informacijski sistemi, organizacija, management in strategija
Organizacija in informacijski sistem. Spremenljiva vloga IS v organizaciji. Managerji, odločanje in informacijski sistemi. Informacijski sistemi in poslovna strategija. Vpliv informacijske tehnologije in informacijskih sistemov na uspešnost poslovanja podjetij.

4) Medorganizacijski informacijski sistemi
Informacijska tehnologija in infrastruktura. Organiziranje informacijskih sistemov. Povezovanje sestavin informacijskega sistema v in med organizacijami. Ravni odločanja v poslovnem sistemu.

5) E-poslovanje
Internet in elektronsko poslovanje. Pripravljenost organizacije za elektronsko poslovanje. Poslovni, organizacijski in tehnološki vidiki uvedbe elektronskega poslovanja. Proces uvajanja elektronskega poslovanja. Globalne razsežnosti elektronskega poslovanja.

6) Prenova in informatizacija poslovnih procesov ter gradnja informacijskih sistemov.
Prenova in informatizacija poslovnih procesov v kontekstu digitalizacije. Strateška vloga informatike. Razvoj informacijske infrastrukture. Življenjski cikel informacijskega sistema. Metode pri razvoju informacijskih sistemov.

7) Vodstveni in organizacijski podporni sistemi
Upravljanje znanja v organizaciji. Sistemi in infrastruktura za upravljanje znanja. Umetna inteligenca. Sistemi za podporo odločanju. Sistemi za podporo odločanju v skupini.

8) Upravljanje informacijskih sistemov
Varnost informacijskih sistemov. Nadzor informacijskih sistemov. Zagotavljanje kakovosti sistema. Etični in socialni vpliv informacijskih sistemov.

of information systems in modern organization. Business processes and information systems. Enterprise systems. Collaboration systems. ERP Systems. CRM Systems. Document systems. Inter-organizational information systems. Enterprise application portal. HRM Systems.

3) Information systems, organization, management and strategy
Organization and information system. The changing role of information systems in organization. Managers, decision making, and information systems. Information systems and business strategy. Influence of information technology and information systems on business performance.

4) Inter-organizational Information Systems.
Information technology and infrastructure. Organization of information systems. Connecting the elements of information systems in and between organizations. Decision levels in business system.

5) E-business
Internet and e-business. Capacity and ability of organization for e-business. Business, organizational and technological aspects of e-business implementation. E-business implementation process. Global dimension of e-business.

6) Business process and information system reengineering, and building information systems.
Business process and information system reengineering in the context of digitalisation. Strategic role of informatics. Information infrastructure development. The information system lifecycle. Information system development methodologies.

7) Management and organizational support systems
Knowledge management in organization. System and infrastructure for knowledge management. Artificial intelligence. Decision-support systems. Group decision-support systems.

8) Managing information systems
Information systems security. Information systems control. Ensuring system quality. Ethical and social

9) Specifični informacijski sistemi: primer IS v zdravstvu Biomedicinski informacijski sistemi. Upravljanje in elektronsko arhiviranje diagnostičnih elektronskih materialov. Elektronski zdravstveni karton. Informacijski sistemi v zdravstvenih institucijah.	impact of information systems. 9) Specific information systems: example in the medical field Biomedical information systems. Management and electronic archiving of electronic diagnostic resources. Electronic health record. Information systems in healthcare institutions.

Temeljna literatura in viri / Readings:

- Laudon, P. J., Laudon, C. K.: Management Information Systems: Managing the Digital Firm. Pearson, 2017
- Venkatraman, N.: Strategic Management of the Information Systems Function: Changing Roles and Planning Linkages. Forgotten Books, 2018
- Rainer, K., Prince, B.,: Management Information Systems. John Wiley & Sons, 2015

Cilji in kompetence: / Objectives and competences:

Cilji in kompetence:	Objectives and competences:
Cilj predmeta je študente seznaniti: • s temeljnimi pojmi, koncepti in rešitvami s področja informacijskih tehnologij; • s sodobnimi trendi pri uporabi informacijske tehnologije za povečanje učinkovitosti organizacij; • z metodologijo in tehnikami razvoja ter upravljanja informacijskih sistemov; • z vplivi, ki jih imajo informacijske tehnologije na uspešnost poslovanja organizacij ter širši družbeni razvoj; • s sodobnimi metodami in pristopi pri upravljanju z informacijskimi sistemi. Študenti v okviru predmeta: • razvijejo razumevanje vloge in pomena informatike v sodobnem podjetju in • spoznajo sodobna informacijska orodja in pristope, ki jih znajo v konkretnih primerih načrtovanja in gradnje informacijskih sistemov tudi uporabiti.	The objective of this course is to introduce students: • with basic terms, concepts and solutions in the field of information technologies; • with trends in usage of information technology to achieve organizational effectiveness; • with methodology, development techniques and management of information systems; • with influence of information technologies on business performance of organization and general economic development; • with modern methods and approaches in management of information systems. Students within this course: • develop the understanding of the role and importance of informatics in modern company and • are getting acquainted with the "state of the art" information tools and approaches, applicable to concrete planning and establishing of information systems.

Predvideni študijski rezultati: / Intended learning outcomes:

Predvideni študijski rezultati:	Intended learning outcomes:
Študent, ki bo uspešno končal ta predmet bo pridobil znanje in razumevanje o: • vrstah in lastnostih informacijskih sistemov, • komponentah informacijskega sistema, • metodologijah izgradnje informacijskega sistema, • uporabi informacijskih tehnologij za povečanje učinkovitosti organizacije, • vrstah in modelih e-poslovanja.	Students who complete this course successfully will know and understand: • different types and attributes of information systems, • information systems components, • information system development methodologies, • the use of information technology for better organizational effectiveness,

Prav tako bo pridobil:
- Sposobnost analize, sinteze in predvidevanja rešitev ter posledic.
- Obvladanje raziskovalnih metod, postopkov in procesov, razvoj kritične in samokritične presoje.
- Sposobnost uporabe znanja v praksi.
- Avtonomnost v strokovnem delu.
- Spretnosti komuniciranja: pisna in ustna predstavitev tehnoloških rešitev v poslovnem okolju.
- Delo v skupini: izvajanje projektov IT v skupini.
- Organizacijske spretnosti: organiziranje procesa upravljanja z znanjem v organizaciji.

Predmet pripravlja študente, da bodo sposobni:
- uporabljati program MS Visio za oblikovanje poslovnih procesov,
- izbrati vrsto in model e-poslovanja glede na potrebe konkretne organizacije,
- razumeti vlogo in pomen informatike v sodobnem podjetju,
- razumeti sodobna informacijska orodja in pristope ter jih v konkretnih primerih načrtovanja in gradnje poslovnih informacijskih sistemov tudi uporabiti,
- analizirati, načrtovati in sestaviti informacijski sistem ter uporabiti za to primerne tehnologije in orodja.

- e-business types and models.

They will also acquire:
- An ability to analyse, synthesise and anticipate solutions and consequences.
- To gain the mastery over research methods, procedures and processes, a development of the critical judgement.
- An ability to apply the theory in to a practice.
- Autonomy in the professional work.
- Communication skills: written and oral presentation of technical solutions in business environment.
- Working in a group: teamwork in performing IT projects.
- Organisation skills: organisation of knowledge management process within an organization.

On completion of this course the student will be able to:
- use the MS Visio for business process design,
- choose the e-business type and model resulting in concrete organizational needs,
- understand the role and meaning of informatics in modern company,
- acquaint with the "state of the art" information tools and approaches, applicable to concrete planning and establishing of information systems,
- analyse, design and implement information system using the appropriate technologies and tools.

Metode poučevanja in učenja:
- predavanja
- seminarji
- laboratorijsko delo

Learning and teaching methods:
- lectures
- seminar work
- laboratory work

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
Seminar	50 %	Seminar
Ustni izpit	50 %	Oral exam

Reference nosilca / Lecturer's references:

- KREL, Cvetka, RAJKOVIČ, Vladislav, BENEDIK, Peter, BEVC, Sebastjan. Model of electronic nursing care record for patients with vascular access malfunction. Austin journal of nephrology and hypertension, ISSN 2381-8964, 2016, vol. 3, issue 1, str.]
- KORELIČ, Igor, MIRCHEVSKA, Violeta, RAJKOVIČ, Vladislav, KLJAJIĆ BORŠTNAR, Mirjana, GAMS, Matjaž. Multiple-criteria approach to optimisation of multidimensional data models. Informatica, ISSN 0868-4952, 2015, vol. 26, no. 2, str. 283-312
- OCEPEK, Domen, RAJKOVIČ, Vladislav. Multilayer evaluation model for project team competences. Proc. of 14th INt. Symp. on Operational Research, 2017, str. 541-546.

- ZUPANIČ, Jože, RAJKOVIČ, Vladislav. Online communication model between the minicipality and its citizens, Proc of 35. Int. Conf. On Organizaional Sciences: Sustainebele Organization, 2016, str.1474-1484
- NIKOLOSKI, Trajče, RAJKOVIČ, Vladislav. Muli-criteria evaluation model for farm reorganization, Proc of 35. Int. Conf. On Organizaional Sciences: Sustainable Organization, 2016, str. 692-701