UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Informatizacija malih podjetij
Course title:	Informatisation of Small Companies

Študijski program in stopnja **Study programme and level**	**Študijska smer** **Study field**	**Letnik** **Academic year**	**Semester** **Semester**
Informatika v sodobni družbi, univerzitetni študijski program prve stopnje	-	Drugi ali tretji	Četrti ali šesti
Informatics in Contemporary Society, first cycle Academic Study programme	-	Second or third	Fourth or sixth

Vrsta predmeta / Course type Izbirni / Elective

Univerzitetna koda predmeta / University course code: 1-ISD-UN-IP-IMP-2016-10-01

Predavanja **Lectures**	**Seminar** **Seminar**	**Vaje** **Tutorial**	**Klinične vaje** **work**	**Druge oblike študija**	**Samost. delo** **Individ. work**	**ECTS**
30	-	15	-	30	105	6

Nosilec predmeta / Lecturer:

Jeziki / Languages:		
	Predavanja / Lectures:	Slovenski, angleški / Slovene, English
	Vaje / Tutorial:	Slovenski, angleški / Slovene, English

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

- Študent/študentka mora poznati osnove programiranja in podatkovnih baz.
- Študent/študentka mora pred pristopom k izpitu pripraviti in zagovarjati projekt.

Prerequisits:

- Student needs basic knowledge of programming and databases.
- Student has to elaborate and present the project before taking the exam.

Vsebina:

Poglavja predmeta obsegajo naslednje teme:

- Posebnosti poslovanja malih podjetij.
- Posebnosti informatizacije malih podjetij.

Content (Syllabus outline):

Course topics:

- Special features of small businesses.
- Special features of the computerization of small businesses.
- The types of approaches in developing software solutions.

- Vrste pristopov pri razvijanju programskih rešitev.
- Prototipni pristop kot alternativa za mala podjetja.
- Projekt: celovita rešitev praktičnega problema za potrebe malega ali mikro podjetja s pomočjo izbranega orodja.

- Prototyping as an alternative for small businesses.
- Project: a complete solution of a real challenge for a small company by using appropriate tool.

Temeljni literatura in viri / Readings:

- Burges, Stephen (2002) *Managing information technology in small business.* Idea Group, Hershey (PA) Information Science.
- Connolly, Thomas in Begg, Carolyn (2010) *Database Systems.* Addison-Wesley.
- Harris, Robert A. (2002) Creative Problem Solving. A step-by-Step Approach, Pyrczak Publishing.
- Poppendieck, Mary in Poppendieck, Tom (2003) *Lean Software Development, An Agile Toolkit*. Addison Wesley.

Cilji in kompetence:

Cilj predmeta je spoznati posebnosti organiziranja malih in mikro podjetij ter njihovih informacijskih sistemov, spoznati posebnosti vloge informatikov v malih podjetjih, spoznati načine razvoja in prenove programskih rešitve v malih podjetjih, spoznati prototipni pristop kot eno od metod razvoja programskih rešitev za mala podjetja, spoznati prednosti in slabosti skupinskega dela, izdelati manjšo delujočo programsko rešitev.

Predmet prispeva k razvoju naslednjih splošnih in predmetno-specifičnih kompetenc:

Splošne kompetence:

- poznavanje in razumevanje procesov, ki jih je mogoče informacijsko podpreti z uporabo spletnih tehnologij, ter sposobnost za njihovo analizo, sintezo in predvidevanje rešitev ter njihovih posledic
- zmožnost skupinskega dela v vseh fazah razvoja spletnih in mobilnih rešitev
- prepoznavanje in ocenitev aktualnih in nastajajočih tehnologij ter ocenitev njihove uporabnosti za reševanje potreb uporabnikov
- zmožnost za prepoznavanje in

Objectives and competences:

The objective of this course is to meet specifics of organization of small and micro enterprises and their information systems. Then to meet specific roles of IT personal in small businesses, learn ways of development of software solutions for small businesses, learn prototyping approach as one of the methods for developing software solutions for small businesses, realize the benefits and disadvantages of group work, and in the end to develop a small functional software solution.

The instructional unit contributes to the development of the following general and subject-specific competences:

General competences:

- familiarity with and understanding of processes allowing information-aided use of web technologies, and the ability to analyse and synthesize them as well as predict solutions and their consequences
- ability to operate within a team during all phases of development of web and mobile solutions
- identification and evaluation of current and emerging technologies, and assessment of their usability in terms of fulfilling user requirements
- ability to recognize and seize

izkoriščanje priložnosti, ki jih ponuja spletna tehnologija
- sposobnost fleksibilne uporabe znanja v praksi
- razvoj kritične in samokritične presoje
- sposobnost pridobivanja, selekcije, ocenjevanja in umeščanja novih informacij in zmožnost interpretacije v ustreznem kontekstu

Predmetno-specifične kompetence:

- sposobnost samostojnega reševanja realnih problemov s pomočjo računalniškega programiranja
- sposobnost samostojnega reševanja realnih problemov z uporabo primernih podatkovnih struktur in algoritmov
- sposobnost uporabe tehnik za zajem zahtev IS
- sposobnost izbire/uporabe informacijsko-komunikacijske tehnologije, orodij in sistemov za načrtovanje IS (informacijskih sitemov)
- pridobivanje uporabniških zahtev in definicije specifikacij rešitev
- sposobnost razumevanja zahtev končnih uporabnikov oz. prepoznavanja priložnosti za nove spletne storitve in pretvorba s tem povezanih vsebinskih zahtev v tehniške specifikacije
- sposobnost spoznavanja in uporabe aktualnih tehnoloških konceptov in praks ključnih informacijsko komunikacijskih tehnologij
- sposobnost kreativnega (inovativnega) reševanja problemov
- poznavanje vseh poglavitnih elektronskih poslovnih komunikacijskih orodij in njihova učinkovita uporaba
- izdelava delujoče vzorčne spletne aplikacije (klient-strežnik-podatkovna baza)
- sposobnost sodelovanja v projektih za izdelavo spletnih strani in aplikacij

opportunities offered by the web technology
- ability to use the acquired knowledge in practice in a flexible manner
- development of critical and self-critical judgement
- ability to find, select, evaluate and position the new information as well as appropriate, context-aware interpretation

Subject-specific competences:

- ability to autonomously solve real life problems with computer programming
- ability to independently solve real problems by using adequate data structures and algorithms
- ability to use appropriate tools and techniques for develop software specification requirements
- ability to choose information and communication technologies, tools and systems for designing and implementing information system
- acquire user requirements and define solution specifications
- ability to understand the final user requirements or identify opportunities for new web services and conversion of related substantive requirements into technical specifications
- ability to recognize and use the current technological concepts and practices of key information and communication technologies
- ability for creative problem solving (innovative thinking)
- familiarity with all principal electronic business communication tools and their effective use
- manufacture of an operational web application sample (client-server-database)
- ability to participate in web design and application development projects

Predvideni študijski rezultati:

Znanje in razumevanje:

Sposobnost študenta/študentke bo:

- poznavanje posebnosti malih podjetij ter specifik razvoja programskih rešitev v malih podjetjih
- razumevanje osnovnih principov, na katerih temeljijo postopki za izdelavo prototipne rešitve
- razumevanje osnovnih principov skupinskega dela
- analiza obstoječega stanja, definiranje ključnih problemov, načrtovanje razvoja ali nakupa programske rešitve
- obnovljeno znanje s področja normalizacije podatkovnih baz do tretje normalne forme
- pravilna in samostojna uporaba izbranih programskih orodij za izdelavo prototipne rešitve
- predstavljati in zagovarjati svoje delo v javnosti

Intended learning outcomes:

Knowledge and understanding:

The student will:

- be acquainted with the peculiarities of small businesses and specifics in the development of software solutions for small businesses
- understand the basic principles for making prototype
- understand the basic principles of teamwork
- learn to analyse the current state, define key issues, plan development or purchase of software solutions
- review the knowledge of relational data bases and normalization to third normal form
- learn how to properly and independently select suitable software tools in order to produce the prototype
- learn to represent and argument their work in public

Metode poučevanja in učenja:

- *predavanja* z aktivno udeležbo študentov (problemsko zasnovan študij, študenti sami proučijo del snovi in jo podajo ostalim študentom, razlaga, diskusija, vprašanja, primeri, reševanje problemov)
- *vaje v računalniški učilnici:* pri teh vajah bodo študentje spoznali aktualna programska orodja za izdelavo prototipne rešitve in jih uporabili za reševanje konkretnih problemov iz malih podjetij. vaje bodo potekale v parih
- *projekti,* ki jih bodo pari študentov pripravili, se bodo znotraj manjših skupinah evalvirali in analizirali ter z delom v skupini (izmenjava mnenj, kritična analiza, ocena) izboljšali. vključeval bo konkreten problem s področja poslovanja malih/mikro podjetij, ki ga bodo morali študenti z izbiro pravilnega orodja v parih obdelati

Learning and teaching methods:

- *lectures* with the active participation of students (problem-based learning, self-learning of a piece of material and then explaining to the rest of the students, discussion, questions, case-studies, creative problem solving)
- *exercises in the computer lab:* in these exercises, students will learn about current software tools to produce prototype and use them to solve real problems of small businesses. exercises will be held in pairs
- *projects* will be evaluated within small groups, analysed (an exchange of views, critical analysis, evaluation) and improved. projects will be focused to real problems in the area of small business / micro-business. the students will have to choose the right tools in order to achieve workable solution

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt): • projekt I. del (projektni načrt) • projekt II. del (izvedba projekta) • pisni izpit	 30 30 40	Type (examination, oral, coursework, project): • project, part I. (project plan) • project, part II. (project execution) • written exam