UČNI NAČRT PREDMETA / COURSE SYLLABUS (leto / year 2016/17)

Predmet:	Aktualno raziskovalno področje I
Course title:	Topical research themes I

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Interdisciplinarni magistrski študijski program Računalništvo in matematika	ni smeri	1 ali 2	prvi
Interdisciplinary Master's study programme Computer Science and Mathematics	none	1 or 2	first

Vrsta predmeta / Course type	izbirni / elective

Univerzitetna koda predmeta / University course code: 63545

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work		ECTS
45		30			105		6

Nosilec predmeta / Lecturer: prof. dr. Marko Robnik Šikonja

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisites:
Vpis v letnik študija.	Enrolment in the programme.

Vsebina:	Content (Syllabus outline):

Predmet izvajajo (mlajši) učitelji, ki bodo pokrivali novosti iz praktično usmerjenega raziskovalnega dela. Predstavili bodo tehnološke preboje ali uporabne rešitve s področja praktičnega računalništva in informatike, ki še niso vključene v vsebine obstoječih predmetov. Podrobna vsebina in predavatelj se določi vsako leto posebej glede na predloge, potrebe programa in zadnje raziskovalne smernice v svetu.	The course is lectured by (younger) professors who present novelties from practically oriented research work. Currently uncovered topics interesting due to recent technological breakthroughs or their applicative value are presented. The lecturer and specific contents of the course are determined annually according to the propositions, programme needs, and latest research trends.

Temeljni literatura in viri / Readings:

T. Hastie, R. Tibshirani, J. Friedman: The elements of statistical learning, 2nd edition. Springer, 2009.

J. L. Hennessy, D. A. Patterson, Computer Architecture, 5th edition: A Quantitative Approach. Morgan Kaufmann, 2011.

Dodatna literatura se predpiše vsako leto posebej glede na vsebino in predloge izbranega predavatelja.

Additional literature is given annually, with respect to the current topic of the course.

Cilji in kompetence: | **Objectives and competences:**

Cilj predmeta je prenesti raziskovalne novosti v učni program in študentom omogočiti, da spoznajo zadnje tehnološke dosežke in praktične implementacije novih metod in tehnologij na področju računalništva in informatike.	The goal of the course is a transfer of recent research results into the curriculum. Students will be introduced to novel technological breakthroughs as well as practical implementations of new methods and technologies in the field of computer and information science.

Predvideni študijski rezultati: | **Intended learning outcomes:**

Znanje in razumevanje: Študenti spoznavajo nove praktične raziskovalne prijeme, ki v obstoječem predmetniku še niso zajeta. Uporaba: Uporaba najnovejših pristopov in tehnik z izbranega področja računalništva in informatike v praksi. Refleksija: Razumevanje primernosti izbranih pristopov s področja računalništva in informatike za reševanje praktičnih primerov v poslovnih okoljih. Prenosljive spretnosti - niso vezane le na en predmet: Reševanje kompleksnih problemov, razvoj kompleksnih sistemov.	Knowledge and understanding: A broader overview and understanding of the field of study from the practical point of view, and recent new methods and concepts. Application: Applying current practically oriented approaches and techniques from the specific field of computer and information science in. Reflection: Understanding the advantages of the chosen approaches in computer and information science in solving specific practical tasks. Transferable skills: Solving complex problems, designing complex systems.	

Metode poučevanja in učenja:

Learning and teaching methods:

Predavanja, laboratorijske vaje	Lectures, lab work.

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt): Sprotno preverjanje (domače naloge, kolokviji in projektno delo) Končno preverjanje (pisni in ustni izpit) Ocene: 6-10 pozitivno, 1-5 negativno (v skladu s Statutom UL)	 50% 50%	Type (examination, oral, coursework, project): Continuing (homework, midterm exams, project work) Final: (written and oral exam) Grading: 6-10 pass, 1-5 fail.

Reference nosilca / Lecturer's references:

ROBNIK ŠIKONJA, Marko, VANHOOF, Koen. Evaluation of ordinal attributes at value level. Data

mining and knowledge discovery, ISSN 1384-5810, 2007, vol. 14, no. 2, str. [225]-243, ilustr. [COBISS.SI-ID 5801556]

ROBNIK ŠIKONJA, Marko, KONONENKO, Igor. Theoretical and empirical analysis of ReliefF and RReliefF. Machine learning, ISSN 0885-6125. [Print ed.], 2003, vol. 53, str. 23-69, graf. prikazi. [COBISS.SI-ID 3813460]

ROBNIK ŠIKONJA, Marko, KONONENKO, Igor. Explaining classifications for individual instances. IEEE transactions on knowledge and data engineering, ISSN 1041-4347. [Print ed.], May 2008, vol. 20, no. 5, str. 589-600, ilustr. [COBISS.SI-ID 6528340]

ŠTRUMBELJ, Erik, ROBNIK ŠIKONJA, Marko. Online bookmakers' odds as forecasts : the case of European soccer leagues. International journal of forecasting, ISSN 0169-2070. [Print ed.], 2010, vol. 26, no. 3, str. 482-488. [COBISS.SI-ID 7706964]

 ROBNIK ŠIKONJA, Marko, KONONENKO, Igor, ŠTRUMBELJ, Erik. Quality of classification explanations with PRBF. Neurocomputing, ISSN 0925-2312. [Print ed.], Nov. 2012, vol. 96, str. 37-46, graf. prikazi. [COBISS.SI-ID 9365588]