UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Napredni IKT pristopi
Course title:	Advanced ICT Approaches

Študijski program in stopnja Study programme and level	Modul Module	Letnik Academic year	Semester Semester
Informacijske in komunikacijske tehnologije, 3. stopnja	vsi	1	1
Information and Communication Technologies, 3rd cycle	all	1	1

Vrsta predmeta / Course type Obvezni / Mandatory

Univerzitetna koda predmeta / University course code: IKT3-911

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Drugo Other	Samost. delo Individ. work	ECTS
30				**30**	**240**	**10**

**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. Marko Debeljak

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Zaključen študij druge stopnje s področja informacijskih ali komunikacijskih tehnologij ali zaključen študij druge stopnje na drugih področjih z znanjem osnov s področja predmeta. Potrebna so tudi osnovna znanja matematike, računalništva in informatike.	Completed second cycle studies in information or communication technologies or completed second cycle studies in other fields with knowledge of fundamentals in the field of this course. Basic knowledge of mathematics, computer science and informatics is also requested.

Vsebina:	**Content (Syllabus outline):**
Študenti se bodo seznanili z naprednimi znanstvenimi vsebinami na področju študijskega programa tretje stopnje informacijskih in komunikacijskih tehnologij (tehnologije znanja, inteligentni sistemi in robotika, komunikacijske tehnologije, računalniške strukture in sistemi, napredne internetne tehnologije). Pregled naprednih tehnik na področjih študija bo podan na sistematičen način, ki bo vključeval pregled aktualnih raziskovalnih rezultatov ter nove raziskovalne izzive.	Students will get an overview of the advanced scientific topics of the third-level study program Information and Communication Technologies (knowledge technologies, intelligent systems and robotics, communication technologies, computer structures and systems, advanced Internet technologies). Review of the advanced topics in the study areas will be presented in a systematic way, which will include a review current research results and new research challenges.

Temeljni literatura in viri / Readings:

Izbrani znanstveni članki in ostala znanstvena literatura s področja obravnavanih vsebinskih področji informacijskih in komunikacijskih tehnologij (tehnologije znanja, inteligentni sistemi in robotika, komunikacijske tehnologije, računalniške strukture in sistemi, napredne internetne tehnologije). / Selected scientific articles in the field of information and communication technologies (knowledge technologies, intelligent systems and robotics, communication technologies, computer structures and systems, advanced Internet technologies).

Cilji in kompetence:	**Objectives and competences:**
Cilj predmeta je pridobitev celostnega pregleda najnovejših raziskav in izzivov na področjih vsebinskih sklopov doktorskega študijskega programa IKT z vidika sedanjega stanja raziskav in njihovega bodočega razvoja. Pomemben cilj je pridobiti poznavanje tematik celotnega doktorskega študijskega programa IKT ter s tem zagotoviti širino kot tudi globino znanja, nujno potrebnega za pravilno umestitev konkretnega raziskovalnega dela študenta v širše raziskovalno področje IKT ter uspešno povezovanje z drugimi raziskovalnimi področji.	The aim of the course is to obtain a comprehensive overview of recent advances and challenges within the topics of all the modules of the ICT doctoral study program in terms of its research state of the art and its future development. An important goal is to obtain a comprehensive understanding of the topics of the entire ICT doctoral study program, thus ensuring broadness as well as depth of knowledge that is indispensable for placing the student's own research in the broader ICT research area and its successful integration with other research fields.

Predvideni študijski rezultati:	**Intended learning outcomes:**
Celosten pregled študijskega področja, razumevanje naprednih tehnik in bodočih znanstvenih usmeritev. Študenti bodo tako pridobili napredno znanje o IKT in sposobnost suverenega komuniciranja tako znotraj področja raziskav IKT kot tudi z drugimi raziskovalnimi področji.	Comprehensive overview of the study field, understanding of advanced techniques and the future research directions. Students will thus acquire advanced knowledge of ICT and the ability of competent communication both within the field of ICT and with other research areas.

Metode poučevanja in učenja:	**Learning and teaching methods:**
Predavanja, konzultacije, druge metode	Lectures, consultations, other methods

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Pisni izpit	100 %	Written exam

Reference nosilca / Lecturer's references:

- WALL, David P., DELGADO, Antonio, O'SULLIVAN, Lilian, CREAMER, Rachel, TRAJANOV, Aneta, KUZMANOVSKI, Vladimir, HENRICKSEN, Christian B., **DEBELJAK, Marko**. A decision support model for assessing the water regulation and purification potential of agricultural soils across Europe. *Frontiers in sustainable food systems*. [in press] 2020, 15 str. ISSN 2571-581X. DOI: 10.3389/fsufs.2020.00115.
- SANDÉN, Taru, TRAJANOV, Aneta, SPIEGEL, Heide, KUZMANOVSKI, Vladimir, SABY, Nicolas, PICAUD, Calypso, HENRIKSEN, Christian B. H., **DEBELJAK, Marko**. Development of an agricultural primary productivity decision support model : a case study in France. *Frontiers in environmental science*. 2019, vol. 7, str. 58-1-58-13. ISSN 2296-665X. DOI: 10.3389/fenvs.2019.00058.
- **DEBELJAK, Marko**, TRAJANOV, Aneta, KUZMANOVSKI, Vladimir, et al. A field-scale decision support system for assessment and management of soil functions. *Frontiers in environmental science*. 2019, vol. 7, str. 115-115-14. ISSN 2296-665X. DOI: 10.3389/fenvs.2019.00115.
- BAMPA, Francesca, TRAJANOV, Aneta, **DEBELJAK, Marko**, et al. Harvesting European knowledge on soil functions and land management using multi%criteria decision analysis. *Soil use and management*. 2019, vol. 35, no. 6, spec. iss., str. 6-20. ISSN 0266-0032. DOI: 10.1111/sum.12506.
- **DEBELJAK, Marko,** FICKO, Andrej, BRUS, Robert. The use of habitat and dispersal models in protecting European black poplar (Populus nigra L.) from genetic introgression in Slovenia. *Biological Conservation*. [Print ed.]. apr. 2015, vol. 184, str. 310-319, ilustr. ISSN 0006-3207. http://dx.doi.org/10.1016/j.biocon.2015.02.004, DOI: 10.1016/j.biocon.2015.02.004.