UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Sodobni IKT pristopi
Course title:	Contemporary ICT Approaches

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

Vrsta predmeta / Course type   Obvezni / Mandatory

Univerzitetna koda predmeta / University course code: IKT2-873

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Drugo Other	Samost. delo Individ. work	ECTS
30				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. Marko Debeljak

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

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

Prerequisits:

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:

Študenti se bodo seznanili z aktualnimi vsebinami študijskih področji študijskega programa druge stopnje informacijskih in komunikacijskih tehnologij (tehnologije znanja, inteligentni sistemi in robotika, komunikacijske tehnologije, računalniške strukture in sistemi, napredne internetne tehnologije, digitalna transformacija). Pregled izbranih IKT področij bo podan na sistematičen način, ki bo vključeval pregled razvoja področja, aktualne raziskovalne rezultate ter raziskovalne izzive.

Content (Syllabus outline):

Students will get an overview of the contemporary topics of the second-level study program of Information and Communication Technologies (knowledge technologies, intelligent systems and robotics, communication technologies, computer structures and systems, advanced Internet technologies, digital transformation). Review of the selected ICT areas will be presented in a systematic way, which will include a review of the development of the area, current research results and new research challenges.

Temeljni literatura in viri / Readings:

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

Cilji in kompetence:

Cilj predmeta je pridobiti celostni pregled vsebin vseh modulov študijskega programa IKT2 z vidika njihovega dosedanjega razvoja, trenutnega stanja raziskav in njihovega bodočega razvoja.

Pomemben cilj je pridobiti poznavanje tematik celotnega študijskega programa ter s tem zagotoviti širino znanja, nujno potrebnega za pravilno umestitev konkretnega raziskovalnega dela študenta v širše raziskovalno področje ter uspešno povezovanje z drugimi raziskovalnimi področji.

Objectives and competences:

The aim of the course is to obtain a comprehensive overview of the content of all the modules of the ICT2 study program in terms of its development, research state of the art and its future development.

An important goal is to obtain a comprehensive understanding of the topics of the entire study program, thus ensuring broadness of the 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:

Celosten pregled študijskega področja, razumevanje dosedanjega razvoja, trenutnega stanja in usmeritev bodočega razvoja področja. Študenti bodo tako pridobili široko znanje o IKT in sposobnost suverenega komuniciranja tako znotraj področja raziskav IKT kot tudi z drugimi raziskovalnimi področji.

Intended learning outcomes:

Comprehensive overview of the study field, understanding of its development, its state-of-the-art and directions for future development of the field. Students will thus acquire broad knowledge of ICT and the ability of competent communication both within the field of ICT and with other research areas.

Metode poučevanja in učenja:

Predavanja, seminar, konzultacije, druge metode

Learning and teaching methods:

Lectures, seminar, consultations, other methods

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

Reference nosilca / Lecturer's references:

- **M. Debeljak**, A. Ficko, and R. Brus, 2016 The use of habitat and dispersal models in protecting European black poplar (Populus nigra L.) from genetic introgression in Slovenia. Biological Conservation, ISSN 0006-3207. [Print ed.], vol. 184, str. 310-319, 2015.
- A. Trajanov, V. Kuzmanovski, F. Leprince,, B. Real, A. Dutertre, J. Maillet-Mezeray, S. Džeroski, **M. Debeljak**, 2015. Estimating drainage periods for agricultural fields from measured data: Data mining methodology and a case study (La Jaillière – France). Irrig. Drain. 64, 703-516.V. Kuzmanovski, A. Trajanov, F. Leprince, S. Džeroski, and **M. Debeljak**, Modeling water outflow from tile-drained agricultural fields. Science of the total environment, vol. 505, str. 390-401.
- T. Jaklič, L. Juvančič, S. Kavčič, and **M. Debeljak**, Complementarity of socio-economic and emergy evaluation of agricultural production systems: the case of Slovenian dairy sector. Ecological economics,

vol. 107, str. 469-481, 2014.

- **M. Debeljak**, A. Poljanec, and B. Ženko, Modelling forest growing stock from inventory data: a data mining approach. Ecological indicators, vol. 41, str. 30-39, 2014.

- J. Levatić, D. Kocev, **M. Debeljak**, and S. Džeroski, Community structure models are improved by exploiting taxonomic rank with predictive clustering trees. Ecological modelling, 11 str., 2014.