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| **UČNI NAČRT PREDMETA / COURSE SYLLABUS** | | | | | | | | | | | | | | | | | |
| **Predmet:** | | | Informacijski sistemi | | | | | | | | | | | | | | |
| **Course title:** | | | Information Systems | | | | | | | | | | | | | | |
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| **Študijski program in stopnja**  **Study programme and level** | | | | | **Študijska smer**  **Study field** | | | | | | | | **Letnik**  **Academic year** | | **Semester**  **Semester** | | |
| Univerzitetni študijski program prve stopnje Elektrotehnika | | | | | **Ni smeri** | | | | | | | | 2. | | letni | | |
| 1st cycle academic study programme Electrical Engineering | | | | | **/** | | | | | | | | **2.** | | **summer** | | |
|  | | | | | | | | | | | | | | | | | |
| **Vrsta predmeta / Course type** | | | | | | | | | | | | Izbirni – strokovni/elective professional | | | | | |
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| **Univerzitetna koda predmeta / University course code:** | | | | | | | | | | | | 64122 | | | | | |
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| **Predavanja**  **Lectures** | **Seminar**  **Seminar** | | | **Vaje**  **Tutorial** | | | **Klinične vaje**  **work** | | | | **Druge oblike študija** | | | **Samost. delo**  **Individ. work** | |  | **ECTS** |
| **45** |  | | | **15** | | |  | | | |  | | | **65** | |  | **5** |
|  | | | | | | | | | | | | | | | | | |
| **Nosilec predmeta / Lecturer:** | | | | | Sara Stančin | | | | | | | | | | | | |
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| **Jeziki /**  **Languages:** | | **Predavanja / Lectures:** | | | | slovenski | | | | | | | | | | | |
| **Vaje / Tutorial:** | | | | slovenski | | | | | | | | | | | |
| **Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:** | | | | | | | | |  | **Prerequisits:** | | | | | | | |
| Vpis v letnik. | | | | | | | | |  | Enrolment in the year of the course. | | | | | | | |
| **Vsebina:** | | | | | | | |  | | **Content (Syllabus outline):** | | | | | | | |
| Osnovni pojmi o informacijskih sistemih in njihova uporaba (informacije, podatki in znanje, podatkovni viri). Strukturiran zapis podatkov, informacij in znanja (osnovni in kompleksni podatkovni tipi, meta podatki, tabelarični zapis podatkov, povezave (relacije med podatki), podatkovni model). Shranjevanje podatkov (skladovnice podatkov, podatkovni strežniki, skladišča podatkov). Uporaba in vzdrževanje podatkov ter upravljanje z njimi. Poizvedbe (jeziki za poizvedbe, iskanje po tekstu, iskanje multimedijskih vsebin, ključne besede, rudarjenje podatkov, iskanje po tekstovnih podatkih). Zaščita podatkov. Orodja za delo s podatki (neposredno povezovanje, vmesniki za povezovanje, oddaljen dostop odjemalec/strežnik). Trinivojskao arhitektura (splet, aktivne strezniške aplikacije, spletne storitve). | | | | | | | |  | | Basics of information systems (information, data and knowledge, data sources). Structure of data, information and knowledge (basic and complex data types, metadata, tabular format, relationships, data model). Data storage (databases, data servers, data warehouses). Using, maintaining data, and managing data. Queries (query language, text search, search multimedia content, keywords, datamining). Protecting data. Tools for working with data (direct connection, connection interfaces, remote access, client/server ). Three tier architecture (web, active server applications, web services). | | | | | | | |

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| **Temeljni literatura in viri / Readings:** | | | | | |
| 1. T. Vidmar, Informacijsko komunikacijski sistem, Pasadena, Ljubljana 2002.  2. A. Silberschatz et al, Database Systems Concepts, Fifth Edition, McGraw-Hill, 2005.  3. H. Garcia-Molina, J- D. Ullman, J. Widom, Database Systems: The Complete Book, Second Edition, Pearson Prentice Hall, 2009.  4. M. Arenas, P. Barceló, L. Libkin, F. Murlak, Foundations of Data Exchange, Cambridge University Press, 2014. | | | | | |
| **Cilji in kompetence:** | |  | | **Objectives and competences:** | |
| Predmet podaja temeljna znanja s področja informacijskih sistemov, ki so potrebna za bodoče inženirje tehnične stroke in spadajo v splošno izobrazbo inženirja v informacijski družbi. Predmet podaja pregled informacijskih sistemov, postopkov njihovega načrtovanja in upravljanja, ter različnih orodij za vzdrževanje podatkov in poizvedbe po podatkih. Snov je zanimiva za vse študente elektrotehnike, hkrati pa je dobra osnova za spremljanje strokovnih predmetov v višjih letnikih študija telekomunikacij. | |  | | The course provides basic knowledge in the field of information systems. This knowledge is necessary for engineers in the Information Society and is a part of general education. The course provides an overview of information systems, principles of planning and management, as well as various tools for their maintenance and data query. The subject is of interest to all students of electrical engineering and it is a good basis for future students of telecommunications. | |
| **Predvideni študijski rezultati:** | | |  | **Intended learning outcomes:** | |
| Osnove načrtovanja, izvedbe in uporabe informacijskih sistemov. | | |  | Principles of design, implementation and use of information systems. | |
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| **Metode poučevanja in učenja:** | | |  | **Learning and teaching methods:** | |
| Predavanja in laboratorijske vaje, učenje z delom, delo doma. | | |  | Lectures and laboratory work, learning by doing, work at home. | |
| **Načini ocenjevanja:** | Delež (v %) /  Weight (in %) | | | | **Assessment:** |
| Način: projektno delo, pisni izpit.  Ocenjevalna lestvica: nezadostno (od 1 do 5), zadostno (6), dobro (7), prav dobro (8), prav dobro (9), odlično (10).  Pozitivna ocena projekta je pogoj za pristop k pisnem delu izpita.  Prispevki k oceni  Projektno delo  Pisni izpit | **50%**  **50%** | | | | Type: project work, written exam.  Grading scale:  insufficient (1 to 5), an adequate (6), a well (7), very good (8), very good (9), excellent (10).  Positive evaluation of the project is a prerequisite for the written exam.  Contributions to final grade:  Project work  Written exam. |
| **Reference nosilca / Lecturer's references:** | | | | | |
| 1. STANČIN, Sara, TOMAŽIČ, Sašo. User data synchronization. V: FURHT, Borivoje (ur.). Encyclopedia of wireless and mobile communications. Boca Raton; New York: Taylor & Francis, str. 1-6.  2. TOMAŽIČ, Sašo, PAVLOVIĆ, Vesna, MILOVANOVIĆ, Jasna, SODNIK, Jaka, KOS, Anton, STANČIN, Sara, MILUTINOVIĆ, Veljko. Fast file existence checking in archiving systems. ACM transactions on storage, 2011, 7 (1), str. 1-21.  3. STANČIN, Sara, TOMAŽIČ, Sašo. Efficient user data synchronization. The IPSI BGD Transactions on Advanced Research, 6 (1), str. 23-31.  4. TOMAŽIČ, Sašo, STANČIN, Sara. Quality of life and information society : invited paper. V: YU info 2009, Kopaonik, 8. 3. - 11. 3. 2009. KORUNOVIĆ, Dušan (ur.). Zbornik radova : simpozijum o računarskim naukama i informacionim tehnologijama. Beograd: Društvo za informacione sisteme i računarske mreže, 2009, str. 1-4.  5. STANČIN, Sara, TOMAŽIČ, Sašo. An alternative approach to user data synchronization. V: CUNNINGHAM, Stuart (ur.). Proceedings of the Third International Conference on Internet Technologies and Applications (ITA 09) : Thuesday 8th - Friday 11th September 2009, Glyndwr University, Wrexham, Wales, UK. Wrexham: Glyndwr University, Centre for Applied Internet Research (CAIR), str. 565-573. | | | | | |