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| **UČNI NAČRT PREDMETA / COURSE SYLLABUS** | | | | | | | | | | | | | | | | | |
| **Predmet:** | | | Modul D: Svetovni splet | | | | | | | | | | | | | | |
| **Course title:** | | | Module D: World Wide Web | | | | | | | | | | | | | | |
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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 | | | | | **Vse smeri** | | | | | | | | 3. | | letni | | |
| 1st cycle academic study programme Electrical Engineering | | | | | **All fields** | | | | | | | | **3.** | | **summer** | | |
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| **Vrsta predmeta / Course type** | | | | | | | | | | | | Izbirni – splošni/ elective general | | | | | |
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| **Univerzitetna koda predmeta / University course code:** | | | | | | | | | | | | 64140 | | | | | |
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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:** | | | | | Jaka Sodnik | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | |
| **Jeziki /**  **Languages:** | | **Predavanja / Lectures:** | | | | slovenski / Slovenian | | | | | | | | | | | |
| **Vaje / Tutorial:** | | | | slovenski / Slovenian | | | | | | | | | | | |
| **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):** | | | | | | | |
| 1. Zgodovina in razvoj interneta in spleta 2. Osnovni princip komunikacije odjemalec-strežnik (internetni protokoli, HTTP) 3. Osnove administracije strežnikov (namestitev, upravljanje, varnostni mehanizmi) 4. Varnostni mehanizmi v spletu (avtentikacija, certifikati, protokol HTTPS) 5. Tehnologije na strežniški strani (PHP, ASP, CGI, dostop do podatkovnih baz, javanski servleti) 6. Tehnologije na strani odjemalca (spletni brskalnik, HTML, CSS, skriptni jeziki, DOM, AJAX, ogrodja in programske knjižnice) 7. Spletne storitve in tehnologije za semantično izmenjavo podatkov (XML, XSLT, JSON, SOAP, WSDL) 8. Delovanje spletnih blog-ov, forum-ov, wikipedij, družbenih omrežij, tehnologije RSS 9. Mobilni splet (WAP, WML, odzivni splet). 10. Varnost na spletu in spletni napadi (napadi na strežnik, napadi na odjemalca, socialni inženiring) | | | | | | | |  | | 1. History and development of Internet and Web 2. The basic principle of client-server communication (internet protocols, HTTP) 3. Basics of administration of web servers (installation, management, security mechanisms) 4. Security mechanisms on the Web (authentication, certificates, HTTPS protocol) 5. Server side technologies (PHP, ASP, CGI, access to databases, java servlets) 6. Client side technologies (web browser, HTML, CSS, scripting languages​​, DOM, AJAX, frameworks and programming libraries) 7. Web services and technologies for semantic data exchange (XML, XSLT, JSON, SOAP, WSDL) 8. Basics of web blogs, forums, Wikipedia, social networks, RSS technology) 9. Mobile web (WAP, WML, responsive web design) 10. Safety on the Web and web attacks (server attacks, client attacks, social engineering) | | | | | | | |

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| **Temeljni literatura in viri / Readings:** | | | | | |
| 1. Jackson, Jeffrey, C. »Web technologies: a computer science perspective«, 2006, 574 str., ISBN: 0-13-185603-0. 2. Deitel, P. J., Deitel H. M., »Internet & World Wide Web: how to program (Fourth Edition)«, 2008, 1373 str., ISBN: 0-13-175242-1. 3. W3Schools Online Web Tutorials, http://www.w3schools.com/. | | | | | |
| **Cilji in kompetence:** | |  | | **Objectives and competences:** | |
| Spoznavanje osnovnih principov spletnih tehnologij, tako na strežniški strani, kot tudi na strani odjemalcev. Učenje spletnih jezikov, potrebnih za predstavitev in prikazovanje vsebin, ter spoznavanje programskih tehnologij, ki omogočajo dinamično ustvarjanje vsebin. Spoznavanje osnovnih principov opisovanja in iskanja spletnih vsebin ter storitev. Spoznavanje formatov spletnih (večpredstavnih) vsebin in iz njih izhajajočih tehničnih zahtev za prenos vsebin ter izvedbo spletnih storitev. Prilagajanje vsebin stacionarnim in mobilnim terminalom. Poznavanje spletne varnosti in različnih tipov napadov na spletu. | |  | | Basic principles of web technologies, server side and client side. Web languages for the definition and presentation of content and programming languages for the dynamic creation of web content. Basic principles of the description and search of web content and services. Different formats of online (multimedia) content and the corresponding technical requirements for the transfer of content and execution of web services. Adaptation of web content for desktop and mobile terminals. Knowledge of web safety and various types of web attacks. | |
| **Predvideni študijski rezultati:** | | |  | **Intended learning outcomes:** | |
| Poznavanje osnovnih načel delovanja svetovnega spleta na nivoju omrežja, naprav in vsebin,pripadajočih tehnologij in varnosti. | | |  | Knowledge of the basic principles of the World Wide Web at the level of networks, devices and content, related technologies and safety. | |
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| **Metode poučevanja in učenja:** | | |  | **Learning and teaching methods:** | |
| Predavanja s praktičnimi demonstracijami, laboratorijske vaje in izdelava samostojnega projekta pod mentorstvom asistenta. | | |  | Lectures with practical demonstrations, lab work and the implementation of individual project under the mentorship of laboratory assistant. | |
| **Načini ocenjevanja:** | Delež (v %) /  Weight (in %) | | | | **Assessment:** |
| Način: laboratorijske vaje, projekt, ustni izpit.  Ocene od 1 do vključno 5 so negativne, ocene od vključno 6 do 10 so pozitivne.  Pozitivna ocena laboratorijskih vaj in projekta je pogoj za pristop k izpitu.  Prispevki k oceni:  laboratorijske vaje in projekt  ustni izpit | 50%  50% | | | | Type: laboratory exercises, project, oral exam.  Negative grades: from 1 to 5, positive grades: from 6 to 10.  Positive evaluation of laboratory exercises and project is a prerequisite for the exam.  Contributions to final grade:  laboratory exercises and project  oral examination |
| **Reference nosilca / Lecturer's references:** | | | | | |
| 1. SODNIK, Jaka, KOS, Andrej. Mobilni splet. Elektrotehniški vestnik, ISSN 0013-5852. [Slovenska tiskana izd.], 2012, letn. 79, št. 5, str. 225-230. 2. JAKUS, Grega, JEKOVEC, Matija, TOMAŽIČ, Sašo, SODNIK, Jaka. New technologies for web development. Elektrotehniški vestnik, ISSN 0013-5852. [Slovenska tiskana izd.], 2010, letn. 77, št. 5, str. 273-280. 3. SODNIK, Jaka. Towards mobile web. V: 2nd International Conference on Information Society Technology and Management, Kopaonik, 29. 2. - 3. 3. 2012. KONJOVIĆ, Zora (ur.). ICIST 2012. Belgrade: Association for Information Systems and Computer Networks, 2012, str. 218-222. 4. JAKUS, Grega, SODNIK, Jaka, TOMAŽIČ, Sašo. The design of E-speranto - a computer language for recording multilingual texts on the web. Journal of web engineering, ISSN 1540-9589, Jun. 2012, vol. 11, no. 4, str. 317-336. 5. JAKUS, Grega, SODNIK, Jaka, TOMAŽIČ, Sašo. The architectural design of a system for interpreting multilingual web documents in E-speranto. Journal for universal computer science, ISSN 0948-6968, 2011, vol. 17, no. 3, str. 377-398. | | | | | |