|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UČNI NAČRT PREDMETA / COURSE SYLLABUS** | | | | | | | | | | | | | | | | | |
| **Predmet:** | | | Osnove programiranja | | | | | | | | | | | | | | |
| **Course title:** | | | Introduction to Computer Programming | | | | | | | | | | | | | | |
|  | | | | |  | | | | | | | |  | |  | | |
| **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** | | | | | | | | 1. | | zimski | | |
| 1st cycle academic study programme | | | | | **/** | | | | | | | | **1.** | | **winter** | | |
|  | | | | | | | | | | | | | | | | | |
| **Vrsta predmeta / Course type** | | | | | | | | | | | | Obvezni – strokovni / compulsory professional | | | | | |
|  | | | | | | | | | | | |  | | | | | |
| **Univerzitetna koda predmeta / University course code:** | | | | | | | | | | | | 64104 | | | | | |
|  | | | | | | | | | | | | | | | | | |
| **Predavanja**  **Lectures** | **Seminar**  **Seminar** | | | **Vaje**  **Tutorial** | | | **Klinične vaje**  **work** | | | | **Druge oblike študija** | | | **Samost. delo**  **Individ. work** | |  | **ECTS** |
| **30** |  | | | **30** | | |  | | | |  | | | **65** | |  | **5** |
|  | | | | | | | | | | | | | | | | | |
| **Nosilec predmeta / Lecturer:** | | | | | Iztok Fajfar | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | |
| **Jeziki /**  **Languages:** | | **Predavanja / Lectures:** | | | | slovenski | | | | | | | | | | | |
| **Vaje / Tutorial:** | | | | slovenski | | | | | | | | | | | |
| **Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:** | | | | | | | | |  | **Prerequisits:** | | | | | | | |
| Vpis v letnik študija | | | | | | | | |  | Enrolment in the year of the course | | | | | | | |
| **Vsebina:** | | | | | | | |  | | **Content (Syllabus outline):** | | | | | | | |
| Predmet najprej obravnava osnovne pojme računalnikov in računalniškega programiranja. V nadaljevanju se osredotoča na konkretne programske jezike HTML, CSS in JavaScript, ob katerih se študent sreča s principi kodiranja, načrtovanja podatkov in algoritmov ter programiranja. Predmet je razdeljen na naslednja poglavja:  -Uvod:  -splošni principi programskih jezikov  -načrtovanje, gradnja in preizkušanje programske opreme  -Oblikovanje spletnih strani z jezikoma HTML in CSS:  -zgradba dokumenta in osnovni elementi  -osnovni principi oblikovanja s CSS  -Programiranje spletnih strani z jezikom JavaScript:  -spremenljivke  -krmilni stavki  -funkcije  -dogodki | | | | | | | |  | | The subject first deals with basic principles of computers and computer programming. Later, it focuses on specific programming languages HTML, CSS and JavaScript, through which a student learns the principles of coding, data and algorithm design, and programming. The subject is divided into the following sections:  -Introduction:  -general principles of programming languages  -design, building, and testing computer programs  -Web design with HTML and CSS:  -document structure and basic elements  -basic design using CSS  -Web programming with JavaScript:  -variables  -control statements  -functions  -events | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Temeljni literatura in viri / Readings:** | | | | | |
| 1. I. Fajfar: XHTML in JavaScript za pokušino, Založba FE in FRI, 2005  2. Spletna stran W3 Schools ([www.w3schools.com](http://www.w3schools.com))  3. Mozilla Developer Network (developer.mozilla.org)  4. Matthew MacDonald, HTML5, The Missing Manual, O'Reilly, 2011  5. David Sawyer McFarland, CSS3, The Missing Manual, O'Reilly, 2013  6. John Pollock: JavaScript: A Beginner's Guide, Osborne McGraw-Hill, 2009  7. David Flanagan: JavaScript, The Definitive Guide, O'Reilly, 2011  8. David Sawyer McFarland, JavaScript, The Missing Manual, O'Reilly, 2012 | | | | | |
| **Cilji in kompetence:** | |  | | **Objectives and competences:** | |
| Študenti bodo obvladali osnove algoritemskega in sistemskega načina reševanja problemov. Naučili se bodo veščin računalniškega programiranja in preizkušanja programskih rešitev.  Snov je zasnovana tako, da predstavlja podlago za učenje programskega jezika C. | |  | | Students will master basics of algorithm and system approach to problem solving. They will learn skills of computer programming and testing programming solutions.  Subject is structured in a way that allows students to prepare for learning C programming language. | |
| **Predvideni študijski rezultati:** | | |  | **Intended learning outcomes:** | |
| -Razumevanje delovanja računalniških sistemov  -Reševanje tehničnih problemov s pomočjo računalniških sistemov  -Kritično vrednotenje predlaganih rešitev glede na podane robne pogoje | | |  | -Understanding computer systems  -Solving technical problems using computer systems  -Critical evaluation of possible solutions in view of given boundary conditions | |
| -Iskanje in uporaba potrebnih informacij za programiranje | | |  | -Search and use of programming related information | |
| **Metode poučevanja in učenja:** | | |  | **Learning and teaching methods:** | |
| Predavanja, praktični prikazi, laboratorijske vaje, individualno delo z zahtevnejšimi študenti, uporaba spletnih tehnologij, domače naloge | | |  | Lectures, practical demonstrations, laboratory work, individual work with advanced students, web technologies, homeworks | |
| **Načini ocenjevanja:** | Delež (v %) /  Weight (in %) | | | | **Assessment:** |
| Laboratorijske vaje in domače naloge. Pismeni in ustni del izpita. Kandidat, ki je bil aktivno prisoten na vseh laboratorijskih vajah in je izkazal vsaj 85% uspešnost pri reševanju domačih nalog, se lahko udeleži pismenega dela izpita. Kandidat, ki na pismenem delu izpita zbere vsaj 50 % možnih točk, lahko pristopi k ustnemu delu izpita. Skupna končna ocena se oblikuje na podlagi ocene pismenega in ustnega dela izpita.  Ocenjevalna lestvica:  nezadostno (od 1 do 5), zadostno (6), dobro (7), prav dobro (8), prav dobro (9), odlično (10).  Uspešno opravljene laboratorijske vaje in domače naloge (glej zgoraj) so pogoj za pristop k izpitu.  Prispevki k končni oceni:  pisni izpit  ustni izpit | 50%  50% | | | | Laboratory practical work and homework assignments. Written and oral exam. Candidates which have been actively present at all of the scheduled practical laboratory classes and have completed given homework assignments with at least 85% success rate can take the written exam. Candidates are then eligible fort the oral exam if they scored at least 50% or better in the written exam. The final grade is formed based on the succes in the written and oral exams.  Grading System:  Inadequate (from 1 to 5), Acceptable (6), Adequate (7), Good (8), Good (9), Outstanding (10)  Successfully completed laboratory exercises and homework assignments (see above) is a prerequisite for the exam.  Contributions to final grade:  written exam  oral exam |
| **Reference nosilca / Lecturer's references:** | | | | | |
| 1. BÜRMEN, Arpad, TUMA, Tadej, FAJFAR, Iztok. Meta-optimisation on a high-performance computing system. Elektrotehniški vestnik, ISSN 2232-3228. [English print ed.], 2012, vol. 79, no. 5, str. 231-236  2. FAJFAR, Iztok, TUMA, Tadej, PUHAN, Janez, OLENŠEK, Jernej, BÜRMEN, Arpad. Towards smaller populations in differential evolution = K manjšim populacijam v diferencialni evoluciji. Informacije MIDEM, ISSN 0352-9045, sep. 2012, letn. 42, št. 3, str. 152-163  3. FAJFAR, Iztok, PUHAN, Janez, TOMAŽIČ, Sašo, BÜRMEN, Arpad. On selection in differential evolution. Elektrotehniški vestnik, ISSN 2232-3228. [English print ed.], 2011, vol. 78, no. 5, str. 275-280  4. PUHAN, Janez, BÜRMEN, Arpad, TUMA, Tadej, FAJFAR, Iztok. Teaching assembly and C language concurrently. International journal of electrical engineering education, ISSN 0020-7209, Apr. 2010, vol. 47, no. 2, str. 120-131  5. FAJFAR, Iztok, TUMA, Tadej, BÜRMEN, Arpad, PUHAN, Janez. A top down approach to teaching embedded systems programming = Pristop k učenju programiranja vgrajenih sistemov z vrha navzdol. Informacije MIDEM, ISSN 0352-9045, mar. 2009, letn. 39, št. 1, str. 53-60 | | | | | |