



Univerza v Mariboru



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Fakulteta za naravoslovje in
matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Spletne aplikacije in storitve
Course title:	Web applications and services

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Matematika		3.	6.
Mathematics		3.	6.

Vrsta predmeta / Course type

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
45			30		135	7

Nosilec predmeta / Lecturer: Andrej TARANENKO

Jeziki /

Languages:

Predavanja /

Lectures:

Vaje / Tutorial:

SLOVENSKO/SLOVENE

SLOVENSKO/SLOVENE

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

Računalniški praktikum

Prerequisites:

Programming Practicum

Vsebina:

Osnove in funkcije interneta.
Najpomembnejše internetne aplikacije: spletni strežniki, odjemalci in protokol HTTP, FTP strežniki, odjemalci in protokol, strežniki, odjemalci in protokoli za elektronsko pošto. Življenjski cikel spletne strani.
Razvoj spletnih strani: HTML, XHTML, XML, PHP, MySQL.
CMS sistemi za dinamične spletne strani.
Razvoj matematično orientirane spletne aplikacije.

Content (Syllabus outline):

Fundamentals and functions of the Internet.
Common Internet applications: servers, clients and protocols for web pages, FTP and e-mail.
The lifecycle of a webpage.
Development of web pages: HTML, XHTML, XML, PHP, MySQL.
CMC systems for dynamic web pages.
Development of mathematically oriented web application.

Temeljni literatura in viri / Readings:

P. Bilke: Spoznajmo PHP in MySQL, Flamingo, 2002.
 P. Mrhar: HTML – programiranje web strani, Flamingo, 1996.
 P. Mrhar: XHTML 1.1 in slogi CSS2, Nova Gorica, 2002.
 B. Jerman-Blažič in T. Turk: Internet, Novi Forum, 1996.
 H. M. Deitel, P. J. Deitel, T. R. Nieto: Internet and World Wide Web: how to program, Prentice Hall, 2000.
 C. D. Knuckles, D. Yuen, Web applications: concepts & real world design, Hoboken, J.Wiley & Sons, 2005.
 G. Schlossnagle, Advanced PHP programming, Sams, 2004.
 K. Topley, Java Web services in a nutshell, Sebastopol, O'Reilly, 2003.

Cilji in kompetence:

Spoznati najpogostejše storitve interneta, življenski cikel spletne strani in orodja za razvoj spletnih aplikacij. Razviti matematično orientirano spletno aplikacijo.

Objectives and competences:

To know the most common internet services, the lifecycle of a Web page and different development tools for Web applications. To develop a mathematically oriented real world Web application.

Predvideni študijski rezultati:

Znanje in razumevanje.

- Spoznati pristope k razvoju spletnih aplikacij in organizaciji spletne stran
- Spoznati različne protokole, strežnike in odjemalce za spletne strani, prenos datotek in elektronsko pošto.
- Razumeti osnovne konstrukte skriptnih jezikov
- Spoznati orodja za razvoj spletnih aplikacij.
- Razviti matematično orientirano spletno aplikacijo.

Prenesljive/ključne spretnosti in drugi atributi:

- Pridobljena znanja so podlaga za vse predmete, ki lahko izkoristijo internet.

Intended learning outcomes:

Knowledge and understanding.

- To know the approaches to Web design and organization of Website content
- To know the protocols, servers and clients for web pages, file transfer and e-mail
- To understand fundamental constructs of scripting languages
- To know the different development tools
- Development of mathematically oriented real world Web application.

Transferable/Key Skills and other attributes:

1. The obtained knowledge is a basis for all subjects that can take advantage of Internet.

Metode poučevanja in učenja:

Predavanja
 Računalniške vaje

Learning and teaching methods:

Lectures
 Computer exercises

Načini ocenjevanja:**Assessment:**

Način (pisni izpit, ustno izpraševanje, naloge, projekt)
 Pisni izpit – teoretični del
 Pisni izpit – praktični del
 Projekt

Delež (v %) /
 Weight (in %)
 30%
 30%
 40%

Type (examination, oral, coursework, project):
 Written exam – theoretical part
 Written exam – practical part
 Project

Vsaka izmed naštetih obveznosti mora biti opravljena s pozitivno oceno. Pozitivna ocena pri projektu je pogoj za pristop k pisnemu izpitu.		Each of the mentioned commitments must be assessed with a passing grade. Passing grade of the project is required for taking the exam.
Reference nosilca / Lecturer's references:		
1. JAKOVAC, Marko, TARANENKO, Andrej. On the k-path vertex cover of some graph products. Discrete math.. [Print ed.], 2013, vol. 313, iss. 1, str. 94-100. http://dx.doi.org/10.1016/j.disc.2012.09.010, doi: 10.1016/j.disc.2012.09.010. [COBISS.SI-ID 19464968] 2. TARANENKO, Andrej, VESEL, Aleksander. 1-factors and characterization of reducible faces of plane elementary bipartite graphs. Discuss. Math., Graph Theory, 2012, vol. 32, no. 2, str. 289-297, doi: 10.7151/dmgt.1607. [COBISS.SI-ID 19104264] 3. TARANENKO, Andrej, ŽIGERT PLETERŠEK, Petra. Resonant sets of benzenoid graphs and hypercubes of their resonance graphs. MATCH Commun. Math. Comput. Chem. (Krag.), 2012, vol. 68, no. 1, str. 65-77. http://www.pmf.kg.ac.rs/match/content68n1.htm. [COBISS.SI-ID 16051990] 4. KLAVŽAR, Sandi, SALEM, Khaled, TARANENKO, Andrej. Maximum cardinality resonant sets and maximal alternating sets of hexagonal systems. Comput. math. appl. (1987). [Print ed.], 2010, vol. 59, no. 1, str. 506-513. http://dx.doi.org/10.1016/j.camwa.2009.06.011. [COBISS.SI-ID 15383641] 5. TARANENKO, Andrej, VESEL, Aleksander. Characterization of reducible hexagons and fast decomposition of elementary benzenoid graphs. Discrete appl. math.. [Print ed.], 2008, vol. 156, iss. 10, str. 1711-1724. http://dx.doi.org/10.1016/j.dam.2007.08.029, doi: 10.1016/j.dam.2007.08.029. [COBISS.SI-ID 16140552]		