



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	Uporabna matematika	3.	5. ali 6.
Mathematics	Applied Mathematics	3.	5. or 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]		