Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Osnove spletnega programiranja**
Course title:	Fundamentals of Web Programming

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Enovit magistrski študijski program druge stopnje Predmetni učitelj		**3**	**6**
Five-year master's degree program Subject Teacher			

Vrsta predmeta / Course type	Obvezni/ Obligatory
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
30	**15**		**30**		**105**	**180/6**

Nosilec predmeta / Lecturer:	Aleksander Vesel

Jeziki / Languages:	**Predavanja / Lectures:**	slovenski Slovenian
	Vaje / Tutorial:	slovenski/Slovenian

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Jih ni.	None.

Vsebina:	**Content (Syllabus outline):**
• Osnove in funkcije interneta. • Najpomembnejše internetne aplikacije: spletni strežniki, odjemalci in protokol HTTP, FTP in elektronska pošta. • Življenjski cikel spletne strani. • Razvoj spletnih strani: HTML, XHTML, XML, JavaScript, Ajax, PHP, MySQL. • Razvoj spletne aplikacije.	• 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, JavaScript, Ajax, PHP, MySQL. • Development of a web application.

Temeljni literatura in viri / Readings:

Deloma odvisni od izbranega programskega jezika (npr.):

- P. Bilke: Spoznajmo PHP in MySQL, Flamingo, 2002.
- 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, življenjski cikel spletne strani in orodja za razvoj spletnih aplikacij. Razviti spletno stran in/ali 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 web page and/or a 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 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 a real world Web application.

Transferable/Key Skills and other attributes:

- 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:	Delež (v %) / Weight (in %)	**Assessment:**
<u>Sprotno preverjanje:</u>	Delež (v %) / Weight (in %)	<u>Mid-term testing:</u>
Pisni testi – teorija (3 do 5 pisnih testov na semester)	30%	Written tests – theory (from 3 to 5 written tests during the semester)
Projekt	40%	Project

Izpit: Pisni izpit – praktični del Vsaka izmed naštetih obveznosti mora biti opravljena s pozitivno oceno. Opravljene sprotne obveznosti so pogoj za pristop k izpitu.	30%	Exams: Written exam – practical part Each of the mentioned commitments must be assessed with a passing grade. Passing grades of all mid-term testings are required for taking the exam.

Reference nosilca / Lecturer's references:

1. DENG, Fei, SHAO, Zehui, VESEL, Aleksander. On the packing coloring of base-3 Sierpiński graphs and H-graphs. *Aequationes mathematicae*, ISSN 0001-9054, 2020, str. 1-13, doi: 10.1007/s00010-020-00747-w. [COBISS.SI-ID 27121667].

2. SHAO, Zehui, ZHU, Enqiang, XU, Jin, VESEL, Aleksander, ZHANG, Xiujun. Optimizing distance constraints frequency assignment with relaxation. *RAIRO-Operations Research*, ISSN 0399-0559, 2020, str. 1-13, doi: 10.1051/ro/2020043. [COBISS.SI-ID 27152387].

3. KORŽE, Danilo, MARKUŠ, Žiga, VESEL, Aleksander. A heuristic approach for searching (d,n)-packing colorings of infinite lattices. *Discrete applied mathematics*, ISSN 0166-218X. [Print ed.], March 2019, vol. 257, str. 353-358. https://doi.org/10.1016/j.dam.2018.09.018, doi: 10.1016/j.dam.2018.09.018. [COBISS.SI-ID 21821462].

4. KORŽE, Danilo, VESEL, Aleksander. Packing coloring of generalized Sierpiński graphs. *Discrete mathematics & theoretical computer science*, ISSN 1365-8050, 2019, vol. 21, no. 3, str. 1-18. https://dmtcs.episciences.org/5178/pdf. [COBISS.SI-ID 22126870].

5. VESEL, Aleksander. Cube-complements of generalized Fibonacci cubes. *Discrete Mathematics*, ISSN 0012-365X. [Print ed.], April 2019, vol. 342, iss. 4, str. 1139-1146. https://doi.org/10.1016/j.disc.2019.01.008, doi: 10.1016/j.disc.2019.01.008. [COBISS.SI-ID 18539097].