Predmet:	**Fizikalna multimedija**
Course title:	**Multimedia in physics**

Študijski program in stopnja	Študijska smer	Letnik	Semester
Study programme and level	**Study field**	**Academic year**	**Semester**
Dvopredmetna izobraževalna fizika	/	**2**	**3**
Double major Educational Physics	/		

Vrsta predmeta / Course type   Izbirni / Elective

Univerzitetna koda predmeta / University course code:

Predavanja	Seminar	Vaje	Lab. vaje	Terenske vaje	Samost. delo	ECTS
Lectures	Seminar	Tutorial	Laboratory work	Field work	Individ. work	
30			15		105	5

Nosilec predmeta / Lecturer: Marjan Krašna

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

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

Jih ni   none

Vsebina: **Content (Syllabus outline):**

• Fizikalne osnove multimedije (prikazovalniki, snemalniki, pomnilni mediji, mrežni sistemi) • Multimedija in hipermedia v fiziki (načini prikazovanja informacij) • Standardi in zapisi multimedijskih vsebin (osnove MM standardov, kodiranje in kompresije) • Programska orodja za izdelavo MM gradiv (MM in programski jeziki, MM avtorska orodja, MM uporabniška orodja ...) • Produkcija in distribucija multimedijskih učnih vsebin • Konferenčni sistemi (audio in video)	• Multimedia physical background (presenters, recorders, memory, multimedia grids) • Multimedia and hypermedia in physics (Informatin presentation) • Multimedia standards (introduction to multimedia standards, coding and compression) • Software tool for multimedia production (program languages, authoring tools, user software) • Production and distribution of multimedia learning materials • Conference systems (audio and video)

Temeljni literatura in viri / Readings:

- I. Gerlič, Sodobna informacijska tehnologija v izobraževanju, DZS, Ljubljana, 2000.
- Irene Cheng, Lluis Vincent Safont, Anup Basu, Randy Goebel, Multimedia in education: Adaptive Learning and Testing, World Scientific Publishing Co., 2010
- Meera M. Blattner, Multimedia interface design, Reading, Mass. etc., Addison-Wesley, 1992.
- Sarah E. Hutchinson, Computers, communications, and information, Boston etc., Irwin/McGrawHill, 2000.
- Ruth Colvin Clark & Rcihard E. Mayer, E-learning and science of instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning, John Wiley & Sons, Inc. 2008
- Richard E. Mayer, Multimedia Learning, Cambridge University Press, 2001
- Multimedia: Making It Work, Sixth Edition, McGraw-Hill Companies, Inc. 2004
- Multimedia Systems, Standards, and Networks, Marcel Dekker, Inc. 2000.
- Multimedijske in računalniške revije, npr. Monitor, Multimedia in Education, Computers systems...
- E-gradiva na spletni strani nosilcev predmeta

Cilji in kompetence:

- Poznavanje fizikalnih osnov multimedijskih predstavitev
- Samostojno delo pri pripravi predstavitev
- Poznavanje kakovostnih standardov predstavitev
- Priprava učnih gradiv

Objectives and competences:

- Physical basics of multimedia presentation
- Independant presentation preparation
- Quality standards for presentation assessment
- E-learning material production

Predvideni študijski rezultati:

Intended learning outcomes:

Znanje in razumevanje:	**Knowledge and Understanding:**
Študent bo poznal multimedijsko aparaturno in programsko opremo. Vedel bo kako poteka produkcija multimedijskih vsebin in jasna mu bo vloga izdelave promocij in predstavitev. Poznal bo razliko med učnimi gradivi in promocijskimi materiali.	Student will know multimedia hardware and software. He/she will know how to produce multimedia material. He/she will also know the role of promotion and presentation. He/she will know the difference between e-learning materials and promotion materials.
Prenesljive/ključne spretnosti in drugi atributi:	**Transferable/Key Skills and other attributes:**
Poznavanje dela z informacijsko komunikacijsko tehnologijo	ICT technology appliance

Metode poučevanja in učenja:	**Learning and teaching methods:**
Predavanja, laboratorijske vaje, samostojni izdelek (seminarska naloga)	lectures, laboratory work, seminar work

Delež (v %) /

Načini ocenjevanja:	Weight (in %)	**Assessment:**
- Pisni izpit	40%	- Written exam
- Opravljene vaje in ustni zagovor vaj	20%	- Done exercises and their avocation
- Seminarska naloga	40%	- Seminar work
*Vse ocene morajo biti pozitivne		*All grades have to be positive

Reference nosilca / Lecturer's references:

DUH, Matjaž, BRATINA, Tomaž, KRAŠNA, Marjan. **The role of digital competences in electronic education = Uloga digitalnih kompetencija u elektronskoj nastavi**. Media cult. public relat., 2012, vol. 3, no. 2, str. 131-137. http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=130571. [COBISS.SI-ID 19447816]

BRATINA, Tomaž, DUH, Matjaž, KRAŠNA, Marjan. **E-learning controversy in practical application**. V: BILJANOVIĆ, Petar (ur.). MIPRO 2013, 36th International Convention, May 20-24, 2013, Opatija, Croatia. MIPRO 2013 : Mipro proceedings, (MIPRO ... (CD-ROM)). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics, cop. 2013, str. 928-933. [COBISS.SI-ID 19874312]

KRAŠNA, Marjan, BRATINA, Tomaž, KAUČIČ, Branko. **Transition from traditional to electronic testing**. V: HUNJAK, Tihomir (ur.), LOVRENČIĆ, Sandra (ur.), TOMIČIĆ, Igor (ur.). 23rd Central European Conference on Information and Intelligent Systems, September 19th-21st, 2012, Varaždin, Croatia. Central European Conference on Information and Intelligent Systems CECIIS, 23rd international conference 2012, September

19th-21nd 2012, Varaždin, Croatia. Varaždin: Faculty of Organization and Informatics, 2012, str. 115-121, ilustr. [COBISS.SI-ID 19467272]

KRAŠNA, Marjan, REPNIK, Robert, BRATINA, Tomaž, KAUČIČ, Branko. **Advanced types of electronic testing of student's performance**. V: BILJANOVIĆ, Petar (ur.). MIPRO 2012, 35th International Convention, May 21-25, 2012, Opatija - Adriatic Coast, Croatia. MIPRO 2012 : 35th International Convention, May 21-25, 2012, Opatija - Adriaric Coast, Croatia : mipro proceedings, (MIPRO ... (CD-ROM)). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics - MIPRO, cop. 2012, str. 1384-1390, ilustr. [COBISS.SI-ID 19191304]

REPNIK, Robert, GRUBELNIK, Vladimir, KRAŠNA, Marjan. **Pomen vsebinske, didaktične in tehnične recenzije fizikalnih e-gradiv** = The significance of content, didactic and technical review of physics e-learning materials. V: BAČNIK, Andreja (ur.), TRSTENJAK, Bernarda (ur.), BLAGUS, Katarina (ur.), KOSTA, Maja (ur.). Mednarodna konferenca Splet izobraževanja in raziskovanja z IKT - SIRIKT 2011, Kranjska Gora, 13.-16. april 2011, 13th-16th April 2011. (Zbornik). Ljubljana: Miška, 2011, str. 331-336, ilustr. [COBISS.SI-ID 19410696]

DUH, Matjaž, KRAŠNA, Marjan. **Aesthetics assessment of e-learning materials** = Ocjena estetike materijala za e-učenje. V: PLENKOVIĆ, Mario (ur.). Društvo i tehnologija 2011 : book of manuscripts. Zagreb: Hrvatsko komunikološko društvo = Croatian Communication Association, 2011, str. 118-121. [COBISS.SI-ID 18711816]