Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	E-učenje
Course title:	E-learning

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Izobraževalna matematika, enopredmetni študij, 2. stopnja		1 ali 2	2 ali 4
Educational mathematics - single-major, 2nd degree		1 or 2	2 or 4

Vrsta predmeta / Course type Izbirni / Elective

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
15	15		**15**		**45**	**3**

Nosilec predmeta / Lecturer: Igor Pesek

Jeziki / Languages:	**Predavanja / Lectures:**	SLOVENSKO/SLOVENE
	Vaje / Tutorial:	SLOVENSKO/SLOVENE

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

Jih ni.

Prerequisits:

There are none.

Vsebina:

- Zgodovinsko ozadje in trenutni trendi v e-učenju
- Koncepti in primeri dobrih praks uspešnega e-učenja
- Teorija in principi e-učenja
- sistemi učnega okolja
- e-gradiva
- druge najnovejše tehnologije s področja e-učenja

Content (Syllabus outline):

- Historical background and current trends in elearning.
- Concepts and foundations of best practices for successful teaching online.
- E-learning theory, principles,
- learning management systems, and web-based technology tools.

Temeljni literatura in viri / Readings:

- Gerlič. I, Sodobna informacijska tehnologija v izobraževanju. DZS, Ljubljana, 2000.
- Ruth C. Clark, Richard E. Mayer, E-learning and the science of instruction : proven guidelines for consumers and designers of multimedia learning, John Wiley & Sons, 2011
- William Kendall Horton, E-learning by design, John Wiley & Sons, 2006
- S. Carliner, P. Shank, The e-learning handbook : past promises, present challenges, John Wiley & Sons, 2008
- Ruth C. Clark und Richard E. Mayer, e-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning, Wiley, 2016
- Revije: Computer education, Monitor, Moj mikro, Presek
- E-študijska gradiva

Cilji in kompetence:

- seznaniti se s teoretičnimi izhodišči, učnimi tehnikami in tehnologijami,
- raziskati uporabo e-učenja v različnih učnih situacijah
- Pridobiti osnovne izkušnje z uporabo in upravljanjem učnega okolja
- spoznati osnovne principe e-gradiv
- seznaniti se z orodji za izdelavo e-gradiv
- spoznati osnovne principe e-učbenikov
- seznaniti se z drugimi novejšimi tehnologijami s področa e-učenja

Objectives and competences:

- Basic introduction to online teaching and learning techniques and technologies.
- We will explore applications of e-learning in a variety of settings;
- Will gain practical, hands on experience with a wide variety of online communication tools.
- Get acquainted with basic principles of e-learning materials
- Mastering the authoring tool for preparation of e-learning materials
- Get acquainted with other advanced and new technologies and trends in e-learning

Predvideni študijski rezultati:

Znanje in razumevanje:

- Strokovno-teoretično ozadje s področja eučenja
- Prednosti in slabosti uporabe e-izobraževanja
- Organizacija distribucije in prenosa znanja

Prenesljive/ključne spretnosti in drugi atributi:

- Uporaba znanj pri izdelavi kakovostnih e-učnih gradiv
- Organiziranje in vodenje projektov za izdelavo eučnih gradiv
- Priprava pouka v spletnih učilnicah

Intended learning outcomes:

Knowledge and Understanding:

- Theoretical background of e-materials.
- Advantages and disadvantages of using e-materials.
- Organization of knowledge distributions and knowledge transmission.

Transferable/Key Skills and other attributes:

- Knowledge for development of quality e-learning materials.
- Organizing and manage projects for produce e-learning materials.
- Preparation of classes in online classrooms

Metode poučevanja in učenja:

Predavanje, razgovor in diskusija, demonstracija, metoda pisnih in graficnih del, uporaba IKT, reševanje problemskih nalog in

Learning and teaching methods:

Lecture, conversation and discussion, demonstration, method of written and graphic products, usage of ICT, problem solving and

preiskovanje, ustvarjanje avtenticnih učnih situacij (mikro pouk), oblike dela (individualno delo, skupinsko delo - kooperativno učenje, timsko delo, delo v dvojicah, frontalno delo, medvrstniško ocenjevanje), delo z viri. Poučevanje in učenje potekata z didaktično uporabo informacijsko-komunikacijske tehnologije.	investigation, creation of authentic learning situations (micro teaching), learning forms (individual work, teamwork, group learning (cooperative learning, work in pair, frontal instruction, peer assesment), work with sources. Teaching and learning is done with didactical use od ICT.

Načini ocenjevanja:		**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt) Portfolio s pisnimi izdelki Ustni izpit (pisni) Vsaka izmed naštetih obveznosti mora biti opravljena s pozitivno oceno. Pozitivni oceni pri portfolio in vajah sta pogoj za pristop k izpitu.	Delež (v %) / Weight (in %) 50% 50%	Type (examination, oral, coursework, project): Portfolio with student's works Oral Exam (written) – theory Each of the mentioned commitments must be assessed with a passing grade. Passing grades of the Portfolio and coursework are required for taking the exam.

Reference nosilca / Lecturer's references:

1. DOLENC, Kosta, PESEK, Igor, ABERŠEK, Boris. Modular and branched structure of individualized intelligent e-learning materials for science and technology subject course. V: LAMANAUSKAS, Vincentas (ur.). *Science, technology, society and education issues - 2013*, (Problems of education in the 21st century, ISSN 1822-7864, vol. 57). Siauliai: Scientific Methodological Center Scientia Educologica, 2013, str. 16-24.

2. ŠORGO, Andrej, DOJER, Brina, GOLOB, Nika, REPNIK, Robert, REPOLUSK, Samo, PESEK, Igor, PLOJ VIRTIČ, Mateja, ŠPERNJAK, Andreja, ŠPUR, Natalija. Opinions about STEM content and classroom experiences as predictors of upper secondary school students' career aspirations to become researchers or teachers. *Journal of research in science teaching*, ISSN 0022-4308, 2018, str. 1-21,

3. ZMAZEK, Blaž, PESEK, Igor, MILEKŠIČ, Vladimir, REPOLUSK, Samo, SENEKOVIČ, Jožef, LIPOVEC, Alenka. Vsebinsko-didaktična izhodišča in napotila pri izdelavi i-učbenikov = Contents and didactic guidelines in the i-textbooks production. V: PESEK, Igor (ur.), et al. *Slovenski i-učbeniki*. Ljubljana: Zavod Republike Slovenije za šolstvo, 2014, str. 29-51, ilustr. http://www.zrss.si/pdf/slovenski-i-ucbeniki.pdf. [COBISS.SI-ID 20590856]

4. PESEK, Igor (urednik), ZMAZEK, Blaž (urednik), MILEKŠIČ, Vladimir (urednik). *Slovenski i-učbeniki*. Ljubljana: Zavod Republike Slovenije za šolstvo, 2014. ISBN 978-961-03-0248-3. http://www.zrss.si/pdf/slovenski-i-ucbeniki.pdf. [COBISS.SI-ID 274076928]

5. ŠVERC, Alenka, PESEK, Igor, FLOGIE, Andrej. The challenges of complete informatization of education. V: LAMANAUSKAS, Vincentas (ur.). *Philosophy of mind and cognitive modelling in*

education - 2014, (Problems of education in the 21st century, ISSN 1822-7864, vol. 61). Siauliai: Scientific Methodological Center Scientia Educologica. 2014, str. 121-131

6. ZMAZEK, Blaž, LIPOVEC, Alenka, PESEK, Igor, ZMAZEK, Vesna, ŠENVETER, Stanislav, REGVAT, Jernej, PRNAVER, Katja. What is an e-textbook?. *Metodički obzori : časopis za odgojno-obrazovnu teoriju i praksu*, ISSN 1846-1484, 2012, vol. 7, no. 15, str. 127-139

7. KELENC, Aleksander, KOS, Tim, KREN, Matej, PESEK, Igor. eXeCute - avtorsko orodje za izdelavo e-gradiv = eXeCute - authoring tool. V: Mednarodna konferenca Splet izobraževanja in raziskovanja z IKT - SIRIKT 2011, Kranjska Gora, 13.-16. april 2011, 13th-16th April 2011. BAČNIK, Andreja (ur.), et al. (Zbornik). Ljubljana: Miška, 2011, str. 1123-1125. [COBISS.SI-ID 18435080]