

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

**Predmet:** Internetne tehnologije in aplikacije v procesih izobraževanja  
**Course title:** Internet Technologies and Applications in Educational Processes

Študijski program in stopnja Study programme and level	Modul Module	Letnik Academic year	Semester Semester
Informacijske in komunikacijske tehnologije, 2. stopnja	Napredne internetne tehnologije	1	2
Information and Communication Technologies, 2 <sup>nd</sup> cycle	Advanced Internet Technologies	1	2

**Vrsta predmeta / Course type** Izbirni / Elective

**Univerzitetna koda predmeta / University course code:** IKT2-654

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Druge oblike Other	Samost. delo Individ. work	ECTS
15	15			15	105	5

*\*Navedena porazdelitev ur velja, če je vpisanih vsaj 15 študentov. Drugače se obseg izvedbe kontaktnih ur sorazmerno zmanjša in prenese v samostojno delo. / This distribution of hours is valid if at least 15 students are enrolled. Otherwise the contact hours are linearly reduced and transferred to individual work.*

**Nosilec predmeta / Lecturer:** Doc. dr. Tanja Arh

**Jeziki / Predavanja / Lectures:** slovenščina, angleščina / Slovenian, English

**Languages:**

**Vaje / Tutorial:**

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

Zaključen študijski program prve stopnje s področja naravoslovja, tehnike ali računalništva.

**Prerequisites:**

Student must complete first-cycle study programmes in natural sciences, technical disciplines or computer science.

**Vsebina:**

**1) Temelji informacijske podpore izobraževalnim procesom**

Terminologija in teoretični pristop k informacijski podpori učenja. Osnovne karakteristike e-izobraževanja. Razvoj informacijsko podprtega izobraževanja: didaktični modeli, organizacijska izhodišča in modeli e-izobraževanja. Mediji in podajanje znanja na daljavo. Najnovejši trendi razvoja IKT v izobraževanju.

**2) Tehnološki vidiki e-izobraževanja**

Tehnološka infrastruktura e-izobraževanja. Elementi e-izobraževanja: IKT za e-izobraževanje, izobraževalne tehnologije,

**Content (Syllabus outline):**

**1) The basis of information support to educational processes**

Terminology and theoretical approaches to learning process information support. Basic characteristics of e-learning. The development of computer-based education: didactical models, organizational background and e-learning models. Media and distance knowledge transfer. E-learning development trends.

**2) Technological aspects of e-learning**

E-learning technological infrastructure. E-learning elements: ICT for e-learning, educational

upravljanje e-izobraževanja, pedagoška podpora, tehnologije za upravljanje e-izobraževanja in prenos znanja, sistemi za upravljanje večpredstavnostnih vsebin, digitalne knjižnice.

### **3) Kakovost v e-izobraževanju in kakovost elektronskih učnih gradiv**

Koncepti kakovosti e-izobraževanja. Vidiki kakovosti elektronskih učnih gradiv (uporabniški vmesnik, tehnična izvedba, kakovost izdelave, didaktična kakovost, vsebinska kakovost). Načini in postopki ocenjevanja kakovosti elektronskih učnih gradiv. Produkcija elektronskih učnih gradiv.

### **4) Standardizacija v e-izobraževanju**

Standardi za opis profilov učečih se in ustrezni atributi zasebnosti in varnosti. Standardi za opis učnega gradiva.

### **5) Institucionalni vidiki e-izobraževanja**

Organizacija, načrtovanje in uvajanje e-izobraževanja: priprave na e-izobraževanje, e-izobraževanje v podjetjih (4 C's of Success). Ovire za uspešno institucionalno uvajanje e-izobraževanja. Kritični faktorji uspeha implementacije e-izobraževanja. Upravljanje s človeškimi viri. Upravljanje e-izobraževalnih procesov. Evalvacija e-izobraževanja.

### **6) Vseživljenjsko učenje in družbeni vidiki informatizacije procesov izobraževanja**

Ideja »Odp rtega izobraževanja« in pripadajoči globalni koncept (UNESCO). Programski dokumenti, projektne iniciative, mednarodni postopki standardizacije in integrativni procesi v e-izobraževanju. Politični pomen vseživljenjskega učenja (VŽU). Koncepti podajanja VŽU v Evropi in evropski prostor VŽ. Organizacijske oblike VŽU na univerzah. Tehnologija – skupni imenovalec konceptov VŽU. Tehnološke inovacije za VŽU.

technologies, e-learning management, mentoring support, technologies for e-learning management and knowledge transfer, learning content management systems, digital libraries.

### **3) Quality in e-learning and quality of electronic learning content**

The concepts of quality in e-learning. Quality aspects of electronic learning content (user interface, technical implementation, quality of production, didactical quality, content quality).

Procedures and methods of e-learning content quality assessment.

Production of e-learning content.

### **4) E-learning standardization**

Specifications of learner profiles, privacy and security attributes in e-learner profiles.

Specifications of e-learning content.

### **5) Institutionalization aspect of e-learning**

Organization, planning and implementation of e-learning: preparing for e-learning, e-learning in companies (4 C's of Success).

Obstacles to the efficient institutionalization of e-learning. Critical success factors for e-learning. Human recourse management. E-learning process management. E-learning evaluation.

### **6) Lifelong learning and social aspects of the IT implementation into the educational processes**

Open education idea and UNESCO's global educational concept. Programme document, project initiatives, international procedures of standardization and integrative processes in e-learning. Political meaning of LifeLong Learning (LLL). Concepts of LLL implementation and the European LLL space. Organizational forms of LLL implementation at the Universities. Technology – common denominator of LLL concepts.

Technology innovations for LLL.

### **Temeljna literatura in viri / Readings:**

- [Bates, T. \(2016\). Teaching in a Digital Age - Guidelines for designing teaching and learning.](#)
- Cross, J., in L. Dublin. Implementing e-learning. Alexandria, VA: American Society for Training & Development, 2002.
- Horton, W. K. Leading e-learning. Alexandria, VA: American Society for Training & Development, 2001.
- Hartley, D. E. Selling e-learning. Alexandria, VA: American Society for Training & Development, 2001.
- Horton, W. K. Evaluating e-learning. Alexandria, VA: American Society for Training & Development,

2001.

- UNESCO. Information and communication technologies in schools. A handbook for teachers. How ICT Can Create New, Open Learning Environments (Ed. Alexey Semenov). UNESCO, Paris, 2005 [Online]. Available: <http://unesdoc.unesco.org/images/0013/001390/139028e.pdf>.
- Diana G. Oblinger and James L. Oblinger (Editors): Educating the Net Generation, EDUCAUSE, 2005. Available electronically at <http://www.educause.edu/ir/library/pdf/pub7101.pdf>.

### **Cilji in kompetence:**

Cilj predmeta je študente seznaniti:

- s temeljnimi pojmi, koncepti in rešitvami s področja e-izobraževanja;
- s sodobnimi trendi pri uporabi informacijske tehnologije za učenje in poučevanje;
- z vplivi, ki jih ima e-izobraževanje na uspešnost pridobivanja znanja ter širši družbeni razvoj;
- s sodobnimi metodami in pristopi učenja na daljavo.

Študenti v okviru tega predmeta:

- spoznajo možnosti, priložnosti in pasti, ki jih prinašajo izobraževalne tehnologije;
- spoznajo sodobna izobraževalna orodja in pristope, ki jih znajo v konkretnih okoljih tudi uporabiti.

### **Objectives and competences:**

The objective of this course is to introduce students with:

- basic terms, concepts and solutions in the field of e-learning;
- trends in usage of information technology for learning and teaching;
- influence of e-learning to acquisition of knowledge and general economics development;
- modern distance learning methods and approaches.

Students within this course:

- get acquainted with the possibilities, opportunities and threats resulting in educational technology;
- get acquainted with the "state of the art" educational tools and approaches, applicable to concrete environment.

### **Predvideni študijski rezultati:**

Študent, ki bo uspešno končal ta predmet, bo pridobil znanje in razumevanje o:

- organizaciji, načrtovanju in uvajanju e-izobraževanja,
- modelih in lastnostih e-izobraževanja,
- tehnološki infrastrukturi e-izobraževanja,
- elementih e-izobraževanja,
- uporabi izobraževalnih tehnologij za povečanje učinkovitosti organizacije,
- strukturi ponudbe e-izobraževanja v Sloveniji in svetu,
- kakovosti elektronskih učnih gradiv,
- konceptu vseživljenjskega izobraževanja.

Prav tako bo pridobil:

- Sposobnost analize, sinteze in predvidevanja rešitev ter posledic.
- Obvladanje raziskovalnih metod, postopkov in procesov, razvoj kritične in samokritične presoje.
- Sposobnost uporabe znanja v praksi.
- Avtonomnost v strokovnem delu.

### **Intended learning outcomes:**

Students who complete this course successfully will know and understand:

- the organization, planning and implementation of e-learning,
- different types and attributes of e-learning,
- technology infrastructure of e-learning,
- e-learning elements;
- the use of educational technology for better organizational effectiveness,
- e-learning service provision in Slovenia and abroad,
- the quality of electronic learning resources,
- the concept of lifelong learning.

They will also acquire:

- An ability to analyse, synthesise and anticipate solutions and consequences.
- To gain the mastery over research methods, procedures and processes, a development of the critical judgement.
- An ability to apply the theory in to a practice.
- Autonomy in the professional work.

- Spretnosti komuniciranja: pisna in ustna predstavitve e-izobraževalnih rešitev v različnih okoljih.
- Delo v skupini: izvajanje projektov IT v skupini.
- Organizacijske spretnosti: organiziranje procesa upravljanja z znanjem v organizaciji.

Predmet pripravlja študente, da bodo sposobni:

- uporabljati sistem za upravljanje izobraževanja (npr. CLIX, Moodle);
- izbrati model e-izobraževanja glede na potrebe konkretne organizacije;
- razumeti sodobna izobraževalna orodja in pristope ter jih v konkretnih okoljih tudi uporabiti;
- analizirati, načrtovati in sestaviti e-izobraževalno okolje ter uporabiti za to primerne tehnologije in orodja;
- organizirati proces upravljanja z znanjem v poslovnem okolju.

- Communication skills: written and oral presentation of e-learning solutions in different environment.
- Working in a group: teamwork in performing IT projects.
- Organisation skills: organisation of knowledge management process within an organization.

On completion of this course the student will be able to:

- use the Learning management system (e.g. CLIX, Moodle),
- choose the e-learning model resulting in concrete organizational needs,
- understand the "state of the art" educational tools and approaches, applicable to concrete environment;
- analyse, design and implement e-learning environment using the appropriate technologies and tools,
- organise knowledge management process within an organisation

#### Metode poučevanja in učenja:

- predavanja
- seminarji
- konzultacije
- laboratorijsko delo

#### Learning and teaching methods:

- lectures
- seminar work
- consultations
- laboratory work

Delež (v %) /

#### Načini ocenjevanja:

Weight (in %)

#### Assessment:

Seminar	50 %	Seminar
Ustni izpit	50 %	Oral exam

#### Reference nosilca / Lecturer's references:

- IOANNOU, Andri, VASILIOU, Christina, ZAPHIRIS, Panayiotis, ARH, Tanja, KLOBUČAR, Tomaž, PIPAN, Matija. Creative multimodal learning environments and blended interaction for problem-based activity in HCI education. TechTrends, ISSN 8756-3894, 2015, vol. 59, no. 2, str. 47-56.
- JERMAN BLAŽIČ, Andrej, RIBEIRO, Claudia, FERNANDES, João, PEREIRA, João, ARH, Tanja. Analysing the required properties of business simulation games to be used in e-learning and education. Intelligent information management, ISSN 2160-5912, 2012, vol. 4, no. 6, str. 348-356, doi: 10.4236/iim.2012.46039.
- ARH, Tanja, JERMAN-BLAŽIČ, Borka, DIMOVSKI, Vlado. The impact of technology-enhanced organisational learning on business performance : an empirical study. Journal for East European management studies, ISSN 0949-6181, 2012, vol. 17, no. 3, str. 369-383.
- DINEVSKI, Dejan, FOŠNARIČ, Samo, ARH, Tanja. Open educational resources in e-learning. Organizacija, ISSN 1318-5454, 2010, vol. 43, no. 1, str. 4-8.
- ARH, Tanja, PIPAN, Matija, PETERNEL, Marija Mojca, DEBEVC, Matjaž, JERMAN-BLAŽIČ, Borka. Fostering the integration of web 2.0 technologies and E-learning in vocational education and training. WSEAS transactions on information science and applications, ISSN 1790-0832, 2010, vol. 7, no. 2, str. 241-251.