Univerza v Mariboru

MEDICINSKA FAKULTETA

UČNI NAČRT PREDMETA / SUBJECT SPECIFICATION	
Predmet:	Izbrane vsebine in novosti v medicinski informatiki
Subject Title:	Selected topics and novelties in medical informatics

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
Splošna medicina General medicine - EMŠP		2	**4**

Univerzitetna koda predmeta / University subject code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Labor work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
5	40				45	**3**

Nosilec predmeta / Lecturer: Izred. prof. dr. Dejan Dinevski

Jeziki / Languages: **Predavanja / Lecture:** Slovensko/slovene
Vaje / Tutorial:

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

Prerequisits:

Vsebina:

Medicinska informatika, izbrana poglavja:
- Informacijski sistemi v medicini,
- Uporaba slik in grafike v medicini,
- Odločitveni sistemi v medicini,
- Inteligentni sistemi v medicini.

Bioinformatika, izbrana poglavja:
- Razmerje z medicinsko informatiko
- Informacijske tehnologije in metode za reševanje problemov v biologiji in medicini
- Informacijske aplikacije v bioinformatiki

Telemedicina, izbrana poglavja:
- telezdravstvo, telenega, telenadzor, telekonzultacije
- Praktični primeri (teledermatologija, telekirurgija, telepatologija, telekardiologija…)

Content (Syllabus outline):

Medical informatics, selected chapters:
- Information systems in medicine
- Pictures and graphics in medicine
- Decision support systems in medicine
- Intelligent systems in medicine

Bioinformatics, selected chapters:
- Relation to medical informatics
- computer-based techniques for solving biological and medical problems
- Information technology applications in bioinformatics

Telemedicine, selected chapters:
- Telehealth, telecare, telecontrol, teleconsultations
- Practical applications (teledermatology, telesurgery, telepatology, telecardiology)

Temeljna literatura in viri / Textbooks:

Obvezna literatura:

- Edward H. Shortliffe, James J. Cimino: Biomedical Informatics**,** Springer USA, 2006
- Latifi Rifat, Telemedicine (to be published in 2008)

Dopolnilna literatura:

- Efraim Turban, et al: Introduction to Information Technology, 2001.
- Joan M. Kiel (ur.): Information Technology for the Practicing Physician (Computers in Health Care), New York, 2000.
- Jeffrey C. Bauer, Marc A. Ringel: Telemedicine and the Reinvention of Healthcare, McGraw Hill, 1999.
- A. Hasman: Handbook of Medical Informatics, Springer, 1998.

Cilji:

Študent se bo na podlagi osnovnih znanj poglobil v nekatera od naštetih poglavij medicinske informatike z namenom globljega razumevanja in obvladovanja le-teh.

Objectives:

The student will deepen the knowledge of the selections of listed medical informatics chapters in order to better understand and be able to utilize the acquired knowledge.

Predvideni študijski rezultati:

Znanje in razumevanje:
Po zaključku tega predmeta bo študent:

- Razumel in poznal področja medicinske informatike, bioinformatike in telemedicine.
- Znal uporabljati določene aplikacije iz naštetih področij.

Prenosljive/ključne spretnosti in drugi atributi:

- Samostojno delo z računalnikom
- Uporaba računalniških programov in informacijske tehnologije
- Sposobnost iskanja podatkov

Intended learning outcomes:

Knowledge and Understanding:
On the completition of this course the student will:

- Understand and be acquainted with the basics of medical informatics, bioinformatics and telemedicine.
- Be able to use the applications from the listed chapters.

Transferable/Key Skills and other attributes:

- Autonomous work with the computer
- Use of computer applications and information technology
- Ability to search for the information

Metode poučevanja in učenja:

- Seminar
- E-izobraževanje
- predavanje

Learning and teaching methods:

- seminar,
- e-learning
- predavanje

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Način (ustno izpraševanje, projekt) • Seminar • Ustni zagovor	**50 %** **50 %**	Type (oral examination, project): • Seminar • Oral test

Reference nosilca / Lecturer's references:

VINKO, Matej, BRECELJ, Špela, ERŽEN, Ivan, DINEVSKI, Dejan. Sprejemanje in uporaba informacijskih tehnologij v slovenskem javnem zdravstvu : nacionalna raziskava z uporabo modela UTAUT = Acceptance and use of health information technology in Slovenian public health institutions : a national survey based on UTAUT model. Zdravniški vestnik, ISSN 1318-0347. [Tiskana izd.], apr. 2013, letn. 82, št. 4, str. 234-242. [COBISS.SI-ID 2888677], [JCR]

HUSSEIN, Mohsen, VAN ECK, Carola F., ČRETNIK, Andrej, DINEVSKI, Dejan, FU, Freddie H. Prospective randomized clinical evaluation of conventional single-bundle, anatomic single-bundle, and anatomic double-bundle anterior cruciate ligament reconstruction : 281 cases with 3- to 5-year follow-up. The American journal of sports medicine, ISSN 0363-5465, 2012, vol. 40, no. 3, str. 512-520. http://ajs.sagepub.com/content/40/3/512.full.pdf+html, doi: 10.1177/0363546511426416. [COBISS.SI-ID 4192831], [JCR, SNIP, WoS do 11. 12. 2013: št. citatov (TC): 20, čistih

citatov (CI): 20, normirano št. čistih citatov (NC): 13, Scopus do 8. 1. 2014: št. citatov (TC): 25, čistih citatov (CI): 25, normirano št. čistih citatov (NC): 16]

HUSSEIN, Mohsen, VAN ECK, Carola F., ČRETNIK, Andrej, DINEVSKI, Dejan, FU, Freddie H. Individualized anterior cruciate ligament surgery : a prospective study comparing anatomic single- and double-bundle reconstruction. The American journal of sports medicine, ISSN 0363-5465, 2012, vol. 40, no. 8, str. 1781-1788. http://ajs.sagepub.com/content/40/8/1781.full.pdf+html, doi: 10.1177/0363546512446928. [COBISS.SI-ID 4384063], [JCR, SNIP, WoS do 11. 12. 2013: št. citatov (TC): 7, čistih citatov (CI): 7, normirano št. čistih citatov (NC): 5, Scopus do 8. 1. 2014: št. citatov (TC): 14, čistih citatov (CI): 14, normirano št. čistih citatov (NC): 9]

DINEVSKI, Dejan, POVALEJ, Petra, KRAVOS, Matej. Intelligent data analysis for the diagnosis of alcohol dependence syndrome. Journal of international medical research, ISSN 0300-0605, 2011, vol. 39, no. 3, str. 988-1000. [COBISS.SI-ID 512129848], [JCR, SNIP, WoS do 5. 9. 2011: št. citatov (TC): 0, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0, Scopus do 28. 9. 2011: št. citatov (TC): 0, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0]

DINEVSKI, Dejan, MERTIK, Matej, KOKOL, Peter. Diagnosing mitral valve prolapse by improving the predictive power of classifiers. Journal of international medical research, ISSN 0300-0605, 2011, vol. 39, no. 3, str. 1075-1083. [COBISS.SI-ID 512130104], [JCR, SNIP, WoS do 17. 1. 2013: št. citatov (TC): 1, čistih citatov (CI): 1, normirano št. čistih citatov (NC): 0, Scopus do 28. 9. 2011: št. citatov (TC): 0, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0]