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

Dopolnilna literatura:
- 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.
- Georgi Graschew and Stefan Rakowsky, Telemedicine Techniques and Applications, InTech Open Publishing 2011; chapter: Dejan Dinevski et al., Clinical Decision Support Systems
- HOLZINGER Andreas. Biomedical informatics : lecture notes to LV 444.152. - 1st ed. - Norderstedt : Books on Demand, cop. 2012

Cilji:	**Objectives:**
Študent se bo na podlagi osnovnih znanj poglobil v nekatera od naštetih poglavij medicinske informatike z namenom globljega razumevanja in obvladovanja le-teh.	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:	**Intended learning outcomes:**
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	Knowledge and Understanding: On the complectition 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:	**Learning and teaching methods:**
• Seminar • E-izobraževanje • predavanje	• seminar, • e-learning • predavanje

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Način (ustno izpraševanje, projekt) • Seminar • Kolokvij ŠTUDIJSKE OBVEZNOSTI ŠTUDENTOV: Izdelava seminarske naloge v obliki strokovnega članka in njena predstavitev pred kolegi. POGOJI ZA PRISTOP K POSAMEZNEMU PREVERJANJU ZNANJA: Opravljen seminar.	 **50 %** **50 %**	Type (oral examination, project): • Seminar • Partial exam ACADEMIC OBLIGATIONS OF STUDENTS: Formation of a coursework assignment in the form of a technical article and its presentation in front of colleagues. REQUIREMENTS FOR ACCESS TO INDIVIDUAL KNOWLEDGE CHECKING: completed coursework.

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]