Univerza v Mariboru

UČNI NAČRT PREDMETA / COURSE SYLLABUS			
Ime predmeta:	**Farmakoepidemiologija in farmakoekonomika**		
Course title:	**Pharmacoepidemiology and Pharmacoeconomics**		
Študijski program in stopnja Study programme and cycle	**Študijska smer Study option**	**Letnik Year of study**	**Semester Semester**
Biomedicinska tehnologija/3. stopnja		**2**	**3 ali 4**
Biomedical Technology/3rd Degree			

Vrsta predmeta (obvezni ali izbirni) / Course type (compulsory or elective)	Izbirni Elective
Univerzitetna koda predmeta / University course code:	

Predavanja Lectures	**Seminar Seminar**	**Vaje Tutorial**			**Klinične vaje Clinical training**	**Druge oblike študija Other forms of study**	**Samost. delo Individual work**	**ECTS**
		AV	**LV**	**RV**				
15	**30**						**135**	**6**

Nosilec predmeta / Course coordinator:	Izr. prof. dr. Uroš Maver Doc. dr (Republika Finska) Eva TURK

Jeziki /Languages:	**Predavanja / Lectures:**	Slovenski/Slovene
	Vaje / Tutorial:	

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites for enrolling in the course or for performing study obligations:**

Vsebina (kratek pregled učnega načrta):	**Content (syllabus outline):**
Primerjava zdravstvenega sistema v SLO in EU. Koncepti farmakoepidemioloških in farmakoekonomskih raziskav. Ocenjevanje terapevtskih (kliničnih, humanističnih in ekonomskih) izidov pri zdravljenju z zdravili. Kritičen pregled raziskav Baze podatkov za farmakoepidemiološko in farmakoekonomsko ocenjevanje ter vrste farmakoepidemioloških in farmakoekonomskih študij. Farmakoepidemiološke analize (poročilo primerov, raziskava serije primerov, raziskava primer-kontrola, raziskava izpostavljeni-neizpostavljeni (kohortna študija). Farmakoekonomske analize (analiza zmanjševanja stroškov, analiza stroškovne učinkovitosti, analiza	Comparison of the Slovenian and EU Healthcare systems. Concepts of pharmacoepidemiologic and pharmacoeconomic research. Assessment of therapeutic (clinic, humanistic and economic) outcomes in pharmacotherapy. Critical appraisal of studies Data sources for pharmacoepidemiologic and pharmacoeconomic assessment and types of pharmacoepidemiologic and pharmacoeconomic studies. Pharmacoepidemiologic analysis (case reports, case series studies, case-control studies, cohort studies). Pharmacoeconomic analysis (cost minimization analysis, cost effectiveness analysis, cost benefit analysis, cost utility analysis).

stroškovne koristnosti, analiza stroškovne uporabnosti). Farmakovigilanca: regulatorni, terapevatski in vedenjski vidiki. Modeliranje v farmakoepidemiologiji in farmakoekonomiki. Pomen epidemioloških, farmakoepidemioloških in ekonomskih podatkov ter podatkov o učinkovitosti in varnosti zdravil za racionalizacijo njihove uporabe v rutinski klinični praksi. Na dokazih podprta klinična praksa	Pharmacovigilance: regulatory, therapeutic and behavioural aspects. Modelling in pharmacoepidemiology and pharmacoeconomics. The role of epidemiologic, pharmacoepidemiologic and economic data and data on efficacy and safety of drugs on rationalization of their usage in routine clinical practice. Evidence based clinical practice

Temeljni literatura in viri / Reading materials:

Drummond, Michael F., Mark J. Sculpher, Karl Claxton, Greg L. Stoddart, and George W. Torrance. Methods for the economic evaluation of health care programmes. Oxford university press, 2015.
Eddy, David. "Health technology assessment and evidence-based medicine: what are we talking about?." value in health 12 (2009): S6-S7.
Rupel-Prevolnik V, Simčič B, Turk E. Dictionary of Terminology in the Health Care System. Ljubljana: Ministrstvo za zdravje Republike Slovenije; 2014. (Slovenian)
B. L. Strom, Pharmacoepidemiology, John Wiley&Sons, Chichester, Second edition, 1994
Tekoča periodika: Pharmacoepidemiology and Drug Safety
J. L. Bootman, R. J. Townsend, W. F. McGhan, Principles of Pharmacoeconomics, Harvey Whitney Books Company, Cincinnati, Second edition, 1996.M. F. Drum
mond, B O Brian, G. L. Stoddart, G. W. Torrence,Methods for the Economic Evaluation of Health Care Programs, Oxford University Press, Oxford, 1997.
L. E. Baskin, Practical Pharmacoeconomics (how to design, perform and analyze outcomes research), Advanstar Communications, Inc., Cleveland, 1998.
Ozcan, Y.A. Health care benchmarking and performance evaluation: an assessment using data envelopment analysis (DEA). New York: Springer, 2008
McIntosh, E. et al. Applied methods of cost-benefit analysis in health care. Oxford [etc.]: Oxford University Press, 2011
Gray, A. Applied methods of cost-effectiveness analysis in health care. Oxford [etc.]: Oxford University Press, 2011
Tekoča periodika: PharmacoEconomics

Cilji in kompetence:	**Objectives and competences:**
Umestitev zdravila v sistem zdravstvenega varstva, njegov pomen za populacijo in ciljne skupine ter njegov pomen za posameznika bio-psiho-socialno-ekonomskem smislu. Spoznati osnove farmakoepidemiologije, ki jo definiramo kot aplikacijo epidemiološkega utemeljevanja, metod ter znanja za študij uporabe zdravil ter njihovih učinkov na človeški populaciji. Spoznati osnove farmakoekonomike, ki na osnovi ekonomskih, kliničnih in epidemioloških metod omogoča racionalizacijo zdravljenja z zdravili in je hkrati orodje, ki omogoča racionalizacijo sredstev v sistemu zdravstvenega varstva.	Positioning a medicine in the health care system and its importance for the population and target groups as well as its importance for the individual bio-psycho-social-economic means. Basic knowledge of pharmacoepidemiology, which is defined as the application of epidemiologic reasoning, methods, and knowledge for the study of the use of drugs and their effects on the human population. Learning the basics of pharmacoeconomics that relies on the economic, clinical and epidemiological methods to rationalize drug treatment and is a tool that allows for efficient resource allocation in the health care system.

Predvideni študijski rezultati:	Intended learning outcomes:
Znanje in razumevanje: Študent osvoji znanje in razumevanje materije, potrebne za racionalno uporabo zdravil.	**Knowledge and understanding:** Student wins knowledge and understanding of subject-matter, needed for rational usage of drugs.
Prenosljive/ključne spretnosti in drugi atributi: Študent pridobi sposobnost izvajanja farmakoepidemioloških in farmakoekonomskih raziskav.	**Transferable/key competences and other abilities:** Student becomes master of performing pharmacoepidemiologic and pharmacoeconomic research.
Metode poučevanja in učenja:	**Learning and teaching methods:**
Predavanja Seminarji Samostojno delo	Lectures Seminars Individual work

Načini ocenjevanja:	Delež (v %) / Share (in %)	Assessment methods:
Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Method (written or oral exam, coursework, project):
Pisni izpit Seminarska naloga (pisna in predstavitev)	**60 %** **40 %**	Written examination Seminars (written and presented)

Reference nosilca / Course coordinator's references:

Izr. prof. dr. Uroš Maver:

"STERGAR, Janja, GRADIŠNIK, Lidija, VELNAR, Tomaž, MAVER, Uroš. Intervertebral disc tissue engineering : a brief review. Bosnian journal of basic medical sciences, ISSN 1840-4812. https://bjbms.org/ojs/index.php/bjbms/article/view/3778, doi: 10.17305/bjbms.2019.3778. [COBISS.SI-ID 512880184], [JCR, SNIP, WoS do 7. 6. 2019: št. citatov (TC): 0, čistih citatov (CI): 0, čistih citatov na avtorja (CIAu): 0, Scopus do 15. 6. 2019: št. citatov (TC): 0, čistih citatov (CI): 0, čistih citatov na avtorja (CIAu): 0] kategorija: 1A4 (Z); uvrstitev: SCI, Scopus, MBP; tip dela še ni verificiran točke: 14.56, št. avtorjev: 4"

"ORTHABER, Kristjan, PRISTOVNIK, Matevž, SKOK, Kristijan, PERIĆ, Barbara, MAVER, Uroš. Skin cancer and its treatment : novel treatment approaches with emphasis on nanotechnology. Journal of Nanomaterials, ISSN 1687-4129, 2017, vol. 2017, str. 1-20. https://www.hindawi.com/journals/jnm/2017/2606271/, doi: 10.1155/2017/2606271. [COBISS.SI-ID 2606459], [JCR, SNIP, WoS do 13. 10. 2019: št. citatov (TC): 7, čistih citatov (CI): 7, čistih citatov na avtorja (CIAu): 1.40, Scopus do 1. 3. 2019: št. citatov (TC): 5, čistih citatov (CI): 5, čistih citatov na avtorja (CIAu): 1.00] kategorija: 1A2 (Z, A1/2); uvrstitev: SCI, Scopus, MBP; tip dela je verificiral OSICM točke: 16.56, št. avtorjev: 5"

"MAVER, Tina, KUREČIČ, Manja, SMRKE, Dragica, STANA-KLEINSCHEK, Karin, MAVER, Uroš. Plant-derived medicines with potential use in wound treatment. V: BUILDERS, Philip (ur.). Herbal medicine. London: IntechOpen. cop. 2019, str. [121]-150, ilustr. https://www.intechopen.com/books/herbal-medicine/plant-derived-medicines-with-potential-use-in-wound-treatment, doi: 10.5772/intechopen.72813. [COBISS.SI-ID 22139414] kategorija: 3A (Z, A', A1/2); tip dela je verificiral OSICN točke: 12, št. avtorjev: 5"

Doc. dr. Eva Turk:

LISTYOWARDOJO, Tita A., BERGLUND, Lars-Martin, TURK, Eva. Managing alarm systems for quality and safety in the hospital setting. BMJ open quality, ISSN 2399-6641, Avg. 2018, vol. 7, iss. 3, f. 1-10. https://bmjopenquality.bmj.com/content/7/3/e000202, doi: 10.1136/bmjoq-2017-000202. [COBISS.SI-ID 512827448]

TURK, Eva, PREVOLNIK RUPEL, Valentina, TAPAJNER, Alojz, ISOLA, Arja. Reliability and validity of the audit on diabetes-dependent quality of life (ADDQoL) and EQ-5D in elderly Slovenian diabetes mellitus type 2 patients. Health, ISSN 1949-5005, Mar. 2014, vol. 6, no. 8, str. 699-711. http://www.scirp.org/journal/PaperInformation.aspx?paperID=44018#.U0PTvah_usU, doi: 10.4236/health.2014.68091. [COBISS.SI-ID 4942143]

PREVOLNIK RUPEL, Valentina, TURK, Eva, et al. EQ-5D studies in nervous system diseases in eight Central and Eastern European countries. Value in health : the journal of the International Society for Pharmacoeconomics and Outcomes Research, ISSN 1098-3015, Nov. 2016, vol. 19, no. 7, str. A471. [COBISS.SI-ID 1834126], [JCR, SNIP]nagrada: ISPOR 19th Annual European Congress Research Presentation Award