2026/2027

Univerza v Mariboru
Medicinska fakulteta

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Izbrane vsebine in novosti v farmakologiji in toksikologiji**
Course title:	**Selected Topics and Novelties in Pharmacology and Toxicology**

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Year of study	Semester Semester
Dentalna medicina/Dental Medicine 2. stopnja/2nd cycle		**2**	**4.**

Vrsta predmeta / Course type 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
2	**40**	**3**			**45**	**3**

Nosilec predmeta / Lecturer: **Red. prof. dr. Uroš Maver**

Jeziki / Languages: **Predavanja / Lectures:** slovenščina/slovene
Vaje / Tutorial: slovenščina/slovene

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

Prerequisits:

Vsebina:

- poglobljen študij izbranih farmakodinamičnih skupin zdravil s poudarkom na skupinah zdravil, ki se uporabljajo v zobozdravstvu
- novosti na področju farmakološkega zdravljenja izbranih bolezenskih stanj
- personilizirana medicina in individualni pristop k farmakološkemu zdravljenju
- racionalna raba zdravil
- neželeni učinki in toksičnost zdravil, farmakovigilanca
- interakcije med zdravili in interakcije zdravil s hrano
- učinkovine življenjskega sloga, zlorabe zdravil in drugih učinkovin, učinkovine, ki povzročajo odvisnost, učinkovine v športu, doping
- biološka zdravila
- elektronske zbirke podatkov o zdravilih
- razvoj novega zdravila, regulativa na področju zdravil
- raziskovalno delo na področju farmakologije
- translacijska medicina in farmakologija: prenos laboratorijskih ugotovitev in znanja v klinično prakso, nujnost in smiselnost povezave predklinika-klinika, bazičnih in aplikativnih vidikov znanosti in stroke

Content (Syllabus outline):

- detailed study on selected pharmacodynamic groups of drugs with emphasis on drugs used in dental medicine
- advances in pharmacological treatment of selected pathological conditions
- personalized medicine and individualized pharmacotherapy
- rational use of drugs
- adverse drug effects and reactions, toxicity, pharmacovigilance
- drug-drug and drug-food interactions
- lifestyle drugs, the abuse of drugs and other substances, drug dependence, drugs in sport, doping
- biological drugs
- electronic drug databases
- development of new drugs, regulatory procedures
- research work pharmacology
- translational medicine and pharmacology: implementation of laboratory findings and knowledge into clinical practice, necessity and importance of connecting preclinical and clinical knowledge, basic and applied scientific and professional approaches

Temeljni literatura in viri / Readings:

Temeljna literatura:

1. Rang HP, Dale M, Ritter JM, Flower RJ, Henderson G. Pharmacology. 8th ed. Churchill Livingstone; 2016. (or the latest edition)
2. Goodman LS, Gilman AG, Limbird LE, Hardman JG, Goodman Gilman A. The pharmacological basis of therapeutics. 12th ed. New York: McGraw-Hill; 2011. (or the latest edition)

Dopolnilna literatura:

3. Maver T, Vajda J, Bevc S in Maver U. Izbrana poglavja iz splošne farmakologije in toksikologije – Navodila za vaje pri predmetu Izbrane vsebine in novosti v farmakologiji in toksikologiji za smer Dentalna medicina (e-gradivo), VAJA: Ključna součinkovanja med; 2024 (ali kasnejša izdaja)
4. Katzung BG, Masters SB, Trevor AJ. Basic and clinical pharmacology. 11th ed. New York: McGraw-Hill; 2009. (or the latest edition)
5. Klaassen CD. Casarett & Doull's toxycology: The basic science of poisons. 7th ed. New York: McGraw-Hill; 2008. (or the latest edition)
6. Centralna baza zdravil: http://www.cbz.si
7. Javna agencija RS za zdravila in medicinske pripomočke: http://www.jazmp.si/
8. Evropska agencija za zdravila (EMA): http://www.ema.europa.eu/ema/
9. Periodične publikacije s področja zobozdravstva:
   a) Peridontology 2000: http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1600-0757/homepage/ProductInformation.html
   b) Journal of dental research: http://journals.sagepub.com/home/jdr
   c) Dental Materials: https://www.journals.elsevier.com/dental-materials/

Clinical Implant Dentistry and Related Research: http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1708-8208

Cilji in kompetence:

- podrobneje spoznati farmakološke lastnosti izbranih farmakodinamičnih skupin zdravil
- podrobneje spoznati toksikološke lastnosti izbranih snovi
- načrtovati optimalno učinkovito in varno farmakoterapijo, prilagojeno posameznemu pacientu
- slediti novostim na področju farmakologije in toksikologije v relevantnih literaturnih virih

Objectives and competences:

- to get detailed knowledge on pharmacology of selected pharmacodynamics groups of drugs
- to get detailed knowledge on toxicology of selected substances
- to plan optimal, effective and safe individualized pharmacotherapy
- to follow novelties in the field of pharmacology and toxicology in relevant literature sources

Predvideni študijski rezultati:

Znanje in razumevanje:

- podrobno poznavanje farmakoloških lastnosti izbranih farmakodinamičnih skupin zdravil
- podrobno poznavanje toksikoloških lastnosti izbranih snovi
- izbrati optimalno, učinkovito in varno farmakoterapijo, prilagojeno posameznemu pacientu
- sledenje novostim na področju farmakologije in toksikologije v relevantnih literaturnih virih

Prenesljive/ključne spretnosti in drugi atributi:
veščine

- spoznati pomen poznavanja farmakoloških lastnosti zdravil za izbiro optimalne posamezniku prilagojene farmakoterapije

Intended learning outcomes:

Knowledge and understanding:

- detailed knowledge on pharmacology of selected pharmacodynamics groups of drugs
- detailed knowledge on toxicology of selected substances
- select optimal, effective and safe individualized pharmacotherapy
- follow novelties in the field of pharmacology and toxicology in relevant literature sources

Transferable/Key Skills and other attributes:
skills

- to realize the importance of understanding pharmacological properties of drugs to select optimal individualized pharmacotherapy

Metode poučevanja in učenja:

Learning and teaching methods:

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Predavanja Seminarji Vaje (laboratorijsko raziskovalno delo)	Lectures Seminars Tutorial (laboratory research work)

Načini ocenjevanja:	**Delež (v %) / Weight (in %)**	**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt) – seminarska naloga OPOMBA ŠTUDIJSKE OBVEZNOSTI ŠTUDENTOV: – obvezna prisotnost na seminarjih in pri laboratorijskih vajah – priprava in predstavitev seminarske naloge	**100 %**	Type (examination, oral, coursework, project): – seminar paper NOTES ACADEMIC OBLIGATIONS OF STUDENTS – obligatory attendance at coursework and laboratory work – preparation and presentation of coursework assignment

Reference nosilca / Lecturer's references:

1. KRAVANJA, Katja Andrina, XHANARI, Klodian, KNEZ MAREVCI, Maša, MAVER, Uroš, FINŠGAR, Matjaž. Ketoprofen-loaded PLGA-based bioactive coating prepared by supercritical foaming on a TiAl6V4 substrate for local drug delivery in orthopedic applications. Progress in organic coatings. [Online ed.]. Jan. 2024, vol. 186, [article no.] 108026, 11 str., ilustr. ISSN 1873-331X. DOI: 10.1016/j.porgcoat.2023.108026. [COBISS.SI-ID 168679171]
2. ELVEREN, Beste, KUREČIČ, Manja, MAVER, Tina, MAVER, Uroš. Cell electrospinning: a mini-review of the critical processing parameters and its use in biomedical applications. Advanced biology. March 2023, 10 str. ISSN 2701-0198. DOI: 10.1002/adbi.202300057. [COBISS.SI-ID 146534659]
3. ZIDARIČ, Tanja, MAJER, David, MAVER, Tina, FINŠGAR, Matjaž, MAVER, Uroš. The development of an electropolymerized, molecularly imprinted polymer (MIP) sensor for insulin determination using single-drop analysis. Analyst. [Online ed.]. First published 24 Jan 2023, 14 str. ISSN 1364-5528. Digitalna knjižnica Univerze v Mariboru – DKUM, DOI: 10.1039/D2AN02025D. [COBISS.SI-ID 140143875]
4. BRAČIČ, Matej, POTRČ, Sanja, FINŠGAR, Matjaž, GRADIŠNIK, Lidija, MAVER, Uroš, BUDASHEVA, Hanna, KORTE, Dorota, FRANKO, Mladen, FRAS ZEMLJIČ, Lidija. Amoxicillin doped hyaluronic acid/fucoidan multifunctional coatings for medical grade stainless steel orthopedic implants. Applied Surface Science. [Print ed.]. 2023, vol. 611, part a, str. 1-11, ilustr. ISSN 0169-4332. Repozitorij Univerze v Novi Gorici - RUNG, Digitalna knjižnica Univerze v Mariboru – DKUM, DOI: 10.1016/j.apsusc.2022.155621. [COBISS.SI-ID 130119171]
5. DONKER, Erik M., SPITALERI TIMPONE, Pietro, BRINKMAN, David J., RICHIR, Milan C., PAPAIOANNIDOU, Paraskevi, LIKIC, Robert, SANZ, Emilio J., CHRISTIAENS, Thierry, COSTA, Joao, DE PONTI, Fabrizio, et al., KRŽAN, Mojca (927), BEVC, Sebastjan (927), BRVAR, Miran (927), MAVER, Uroš (927), MAVER, Tina (927), JAKOPIN, Eva (927), PETRESKI, Tadej (927), et al., European Association for Clinical Pharmacology and Therapeutics. The European list of key medicines for medical education : a modified delphi study. Clinical pharmacology and therapeutics. Dec. 2023, vol. , iss. [ahead of print], [article no.] 3132, str. 1-10, ilustr. ISSN 0009-9236. https://ascpt.onlinelibrary.wiley.com/doi/10.1002/cpt.3132, DOI: 10.1002/cpt.3132. [COBISS.SI-ID 179532803]
6. ČINČ ĆURIĆ, Laura, ŠULIGOJ, Maša, IBIC, Maja, MAROVIČ, Nina, VIHAR, Boštjan, VESENJAK, Matej, DOBNIK-DUBROVSKI, Polona, NOVAK, Nejc, STERGAR, Janja, BAN, Irena, MAVER, Uroš, MILOJEVIĆ, Marko, MAVER, Tina, et al. Development of a novel NiCu nanoparticle-loaded polysaccharide-based hydrogel for 3D printing of customizable dressings with promising cytotoxicity against melanoma cells. Materials today bio. Oct. 2023, [Article no.] 100770, vol. 22, 12 str. ISSN 2590-0064. DOI: 10.1016/j.mtbio.2023.100770. [COBISS.SI-ID 161487619]
7. ZIDARIČ, Tanja, SKOK, Kristijan, ORTHABER, Kristjan, PRISTOVNIK, Matevž, GRADIŠNIK, Lidija, MAVER, Tina, MAVER, Uroš. Multilayer methacrylate-based wound dressing as a therapeutic tool for targeted pain relief. Materials. 2023, vol. 16, issue 6, [article no.] 2361, str. 1-21. ISSN 1996-1944. https://www.mdpi.com/1996-1944/16/6/2361, DOI: 10.3390/ma16062361. [COBISS.SI-ID 146598147]