2025/2026

Univerza v Mariboru
Medicinska fakulteta

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Ime predmeta:	Izbrane vsebine in novosti v mikrobiologiji in imunologiji
Course title:	Selected topics and novelties in microbiology and immunology

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Year of study	Semester Semester
Splošna medicina, enovit magistrski študijski program		Drugi	4.
General medicine, Uniform master's degree study program		Second	4th

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				
5	40						45	3

Nosilec predmeta / Course coordinator:	**red. prof. dr. Maja Rupnik**
Jeziki /Languages:	**Predavanja / Lectures:** slovenski/slovene **Vaje / Tutorial:** slovenski/slovene

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):**
Predmet je namenjen študentom, ki jih zanima raziskovalno delo, saj se bodo na praktičnem primeru manjše projektne naloge spoznali z načinom zasnove projekta, različnimi metodami v mikrobioloških raziskavah, analizo rezultatov ter načini za predstavitev rezultatov. Teme projektov vključujejo npr. izolacijo in molekularno karakterizacijo različnih pomembnih mikroorganizmov v določenem okolju ali določeni populaciji, raziskave naravnih mikrobiot, spremljanje genetskih determinant za odpornost proti antibiotikom.	This course is designed for students interested also in the research work and give the opportunity to perform a smaller practical research project within diverse microbiological topics (such as isolation and characterization of pathogens from different environments or patient populations; natural and changed microbiota; follow up of antibiotic resistancegenetic determinants)

Temeljni literatura in viri / Reading materials:

- Ihan A (urednik) Medicinska bakteriologija z mikologijo in parazitologijo, 2020;
- Znanstvena in strokovna periodika glede na temo (Nature Reviews Microbiology; Baničevi dnevi – zborniki v slovenskem jeziku)

Cilji in kompetence:	**Objectives and competences:**
Študent pri izbirnem predmetu razširjeno in poglobljeno obravnava ozko izbrano temo iz celotnega obsega vsebin izbranega predmeta. Obravnava, presega raven obravnave v učbeniku. Pri izbranem predmetu študent utrjuje znanja in veščine, potrebne za samostojno delo in razčlenjevanje posameznih problemov na osnovi podatkov, dobljenih iz sodobne strokovne literature. Hkrati s tem utrjuje znanja in veščine, potrebne za samostojno iskanje sodobnih virov podatkov iz izbranega področja, njihovo razčlenjevanje, analizo in predstavitev. Cilj je priprava študenta na samostojno obravnavo in predstavitev posameznih tem na osnovi tekočih dogajanj v stroki	Chosen subject out of the electives is studied profoundly. Knowledge about the subject extends the matter given in the course book. Thus, student revise obtained knowledge and skills needed for independent work and problem analyse. Student gains experience how to look for newest data on the chosen field and on the basis of acquired modern data from professional literature learns how to classify, analyse and present them. Goal is to prepare student for competent interpretation and presentation of cutting edge professional themes.
Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: - pomembnejših in novejših tem v mikrobiologiji - sodobnih metod v diagnostiki in raziskavah Prenesljive/ključne spretnosti in drugi atributi: - sposobnost samostojnega dela - sposobnost reševanja problemov - uporaba primarnih virov literature - učinkovita prezentacija	Knowledge and Understanding: - of relevant, new and emerging topics in Microbiology state of the art in diagnostic methods and in research Transferable/Key Skills and other attributes: - capability of independent work - capability of problem solving - use of primary sources of scientific literature - knowledge, how to present
Metode poučevanja in učenja:	**Learning and teaching methods:**
projektna naloga Seminar – predstavitev naloge	seminar project work

Načini ocenjevanja:	Delež (v %) / Share (in %)	**Assessment methods:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt) ŠTUDIJSKE OBVEZNOSTI ŠTUDENTOV: Študent mora izvesti manjši praktični projekt, pripraviti seminarsko nalogo/poročilo projekta in jo ustno zagovarjati. NAČIN OCENJEVANJA:		ACADEMIC OBLIGATIONS OF STUDENTS: Student has to perfom a small practical project, prepare a written report and a short oral presentation. **Knowledge assessment** The final mark is composed of : mark for practical work (30%),

Končna ocena je sestavljena iz : ocene praktičnega dela (30%), pisnega izdelka (40%) in predstavitve (30%). POGOJI ZA PRISTOP K POSAMEZNEMU PREVERJANJU ZNANJA: ni	**30** **40** **30**	for written report (40%) and for presentation (30%). REQUIREMENTS FOR ACCESS TO INDIVIDUAL KNOWLEDGE CHECKING: -

Reference nosilca / Course coordinator's references:

MAHNIČ, Aleksander, RAK, Mitja, TREBŠE, Rihard, RUPNIK, Maja, CÖR, Andrej. Identification of prosthetic joint infections with 16S amplicon metagenomic sequencing : comparison with standard cultivation approach. Diagnostic Microbiology and Infectious Disease. [Print ed.]. 2024, iss. 1, art. 116188, str. 1-5, ilustr. ISSN 0732-8893. https://www.sciencedirect.com/science/article/pii/S0732889324000178?via%3Dihub, https://doi.org/10.1016/j.diagmicrobio.2024.116188, DOI: 10.1016/j.diagmicrobio.2024.116188. [COBISS.SI-ID 184967427]

TKALEC, Valerija, VIPREY, Virginie, DAVIS, Georgina L, JANEŽIČ, Sandra, SENTE, Béatrice, DEVOS, Nathalie, WILCOX, Mark, DAVIES, Kerrie, RUPNIK, Maja. Clostridioides difficile positivity rate and PCR ribotype distribution on retail potatoes in 12 European countries, January to June 2018. Eurosurveillance. [Online ed.]. 2022, vol. 27, no. 15, str. 1-10. ISSN 1560-7917. https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2022.27.15.2100417, DOI: 10.2807/1560-7917.ES.2022.27.15.2100417. [COBISS.SI-ID 105165315],

MAHNIČ, Aleksander, PINTAR, Špela, SKOK, Pavel, RUPNIK, Maja. Gut community alterations associated with Clostridioides difficile colonization in hospitalized gastroenterological patients with or without inflammatory bowel disease. Frontiers in microbiology. Sep. 2022, vol. 13, str. 1-8, ilustr. ISSN 1664-302X. https://doi.org/10.3389/fmicb.2022.988426, DOI: 10.3389/fmicb.2022.988426. [COBISS.SI-ID 120477443],

HEDŽET, Stina, RUPNIK, Maja, ACCETTO, Tomaž. Broad host range may be a key to long-term persistence of bacteriophages infecting intestinal Bacteroidaceae species. Scientific reports. 2022, vol. 12, str. 1-11. ISSN 2045-2322. DOI: 10.1038/s41598-022-25636-x. [COBISS.SI-ID 133368323]

WOJTACKA, Joanna, WYSOK, Beata, KOCUVAN, Aleksander, RUPNIK, Maja. High contamination rates of shoes of veterinarians, veterinary support staff and veterinary students with Clostridioides difficile spores. Transboundary and emerging diseases. Mar. 2022, vol. 69, str. 685-693, ilustr. ISSN 1865-1682. https://onlinelibrary.wiley.com/doi/epdf/10.1111/tbed.14034, DOI: 10.1111/tbed.14034. [COBISS.SI-ID 53554947