



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

### UČNI NAČRT PREDMETA / COURSE SYLLABUS

**Predmet:** Izbrana poglavja iz molekularnih bioznanosti  
**Course title:** Selected Topics in Molecular Biosciences

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Doktorski študij Ekološke znanosti, 3. stopnja		1. ali 2.	1.–4.
Doctoral Study Ecological Sciences, 3rd degree		1st or 2nd	1st–4th

Vrsta predmeta / Course type

Izbirni/Elective

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Druge oblike študija	Samost. delo Individ. work	ECTS
10	10		10		150	6

Nosilec predmeta / Lecturer:

Marjanca Starčič Erjavec

Jeziki /

Languages:

Predavanja /

Lectures:

slovenščina / Slovene

Vaje / Tutorial:

slovenščina / Slovene

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

Prerequisites:

Jih ni.

No.

**Vsebina:**

Iz področij molekularnih bioznanosti bodo izbrana poglavja, ki se bodo navezovala na doktorsko delo v predmet vpisanih študentov.

**Content (Syllabus outline):**

Topics will be selected from the fields of molecular biosciences that will be related to the doctoral thesis of students enrolled in the course.

**Temeljni literatura in viri / Readings:**

Lodish, H. F. (2021). *Molecular cell biology* (9th ed., str. XLIII, 1184, 36). Macmillan International Higher Education.

Starčič Erjavec, M., Petkovšek, Ž., Kuznetsova, M. V., Maslennikova, I. L., & Žgur-Bertok, D. (2015). Strain ŽP - the first bacterial conjugation-based "kill" - "anti-kill" antimicrobial system. *Plasmid*, 82, 28–34. doi:10.1016/j.plasmid.2015.10.001

**Cilji in kompetence:**

Cilj predmeta je nadgraditi znanje iz molekularnih bioznanosti, ki je bilo osvojeno na preddoktorskem študiju, v znanje in kompetence, ki so potrebne za uspešno izvedbo raziskovalnega dela in pregleda literature s področja molekularnih bioznanosti v okviru doktorske disertacije.

**Objectives and competences:**

The aim of the course is to upgrade the knowledge of molecular biosciences acquired during pre-doctoral studies into the knowledge and competencies necessary for the successful implementation of research work and a literature review related to molecular biosciences needed for the doctoral dissertation.

**Predvideni študijski rezultati:**

Študent bo pridobil znanje in razumevanje o izbranih vsebinah iz molekularnih bioznanosti, ki so potrebne za uspešno izvedbo raziskovalnega dela in pregleda literature s področja molekularnih bioznanosti v okviru doktorske disertacije.

**Intended learning outcomes:**

Students will acquire the knowledge and understanding of selected molecular biosciences topics necessary for the successful implementation of research work and a literature review related to molecular biosciences needed for the doctoral dissertation.

**Metode poučevanja in učenja:****Learning and teaching methods:**

<ul style="list-style-type: none"> <li>• Predavanja</li> <li>• Seminarsko delo</li> <li>• Laboratorijske vaje</li> </ul>	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Seminar work</li> <li>• Laboratory exercises</li> </ul>
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Delež (v %) /

**Načini ocenjevanja:**

Weight (in %)

**Assessment:**

Ustni izpit	50	Oral exam
Seminarska naloga	50	Seminar paper

**Reference nosilca / Lecturer's references:**

1. DENEKE, Wolde, EGUALE, Tadesse, MEDHIN, Girmay, HAILE, Aklilu Feleke, ALEMAYEHU, Haile, MIHRET, Adane, PIRŠ, Mateja, STRAŠEK SMRDEL, Katja, AVBERŠEK, Jana, KUŠAR, Darja, CERAR KIŠEK, Tjaša, JANKO, Tea, STEYER, Andrej, **STARČIČ ERJAVEC, Marjanca**. Diarrheogenic Escherichia coli in stool specimens collected from patients attending primary healthcare facilities in Ethiopia: whole-genome sequencing-based molecular characterization. *International journal of molecular sciences*. 2024, vol. 25, issue 19, [article no.] 10251, str. 1-19, ilustr. ISSN 1422-0067. <https://www.mdpi.com/1422-0067/25/19/10251>, DOI: [10.3390/ijms251910251](https://doi.org/10.3390/ijms251910251). [COBISS.SI-ID [208803075](https://www.cobiss.si/record/208803075)]
2. PREDOJEVIĆ, Luka, KEŠE, Darja, ŽGUR-BERTOK, Darja, KORVA, Miša, ERDANI-KREFT, Mateja, **STARČIČ ERJAVEC, Marjanca**. Cytokine response of the biomimetic porcine urothelial model to different Escherichia coli strains. *Applied sciences*. 2022, iss. 17, art. 8567, str. 1-11, ilustr. ISSN 2076-3417. <https://www.mdpi.com/2076-3417/12/17/8567>, DOI: [10.3390/app12178567](https://doi.org/10.3390/app12178567). [COBISS.SI-ID [119475715](https://www.cobiss.si/record/119475715)]
3. **STARČIČ ERJAVEC, Marjanca**, JESENIČNIK, Karmen, ELAM, Lauren P., KASTRIN, Andrej, PREDOJEVIĆ, Luka, SYSOEVA, Tatyana. Complete sequence of classic F-type plasmid pRK100 shows unique conservation over time and geographic location. *Plasmid*. 2022, vol. 119/120, str. 1-8, art. 102618, ilustr. ISSN 1095-9890. <https://www.sciencedirect.com/science/article/pii/S0147619X22000026?via%3Dihub>, DOI: [10.1016/j.plasmid.2022.102618](https://doi.org/10.1016/j.plasmid.2022.102618). [COBISS.SI-ID [96152579](https://www.cobiss.si/record/96152579)]