



Univerza v Mariboru



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Fakulteta za naravoslovje in  
matematiko

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

<b>Predmet:</b>	Citologija in histologija
<b>Course title:</b>	Citology and Histology

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Biologija in ekologija z naravovarstvom, 2. stopnja	/	1	2
Biology and Ecology with Nature Conservation, 2 <sup>nd</sup> Level	/	1	2

**Vrsta predmeta / Course type** Obvezen / obligatory

**Univerzitetna koda predmeta / University course code:**

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
30	10	-	30	-	110	6

**Nosilec predmeta / Lecturer:** Saška Lipovšek

<b>Jeziki / Languages:</b>	<b>Predavanja / Lectures:</b>	Slovenski/Slovenian
	<b>Vaje / Tutorial:</b>	Slovenski/Slovenian

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

**Prerequisites:**

Jih ni.

No.

**Vsebina:**

Razumevanje citoloških in histoloških vsebin je temeljno za razumevanje drugih področij biologije. Študenti se seznanijo z različnimi raziskovalnimi metodami v citologiji in histologiji. Študenti spoznajo značilnosti prokariotske celice in evkariotske celice, njihovo strukturo in funkcijo.

**Content (Syllabus outline):**

Understanding the cytology and histology is fundamental to all biological sciences. This subject provides an introduction to the methods for studying the cells. It focuses on the main characteristics of prokaryotic and eukaryotic cells, their structure and function.

**Temeljni literatura in viri / Readings:**

Alberts B. s sod. (2008) Molecular biology of the cell. Garland Science, New York.

Alberts B. s sod. (2010) Essential cell biology. Garland Science, New York.

Karp G. (2005) Cell and Molecular Biology. Concepts and Experiments. John Wiley & Sons, Inc., New York.

Lodish H. s sod. (2010) Molecular Cell Biology. W.H. Freeman, New York.

Kühnel W. (2003) Color atlas of cytology, histology and microscopic anatomy. Thieme, New York.

Jezernik K., Veranič P., Sterle M. (2012) Celična biologija. Učbenik za študente Medicinske fakultete. DZS, Ljubljana.

**Cilji in kompetence:**

Študenti razumejo značilnosti metod v moderni citologiji, histologiji.  
Študenti usvojijo poglobljena znanja na specifičnih področjih citologije, histologije.

**Objectives and competences:**

Students understand basic methods used in modern cytology, histology.  
Students acquire advanced knowledge in specific fields in cytology, histology.

**Predvideni študijski rezultati:**

Znanje in razumevanje:  
Študenti razumejo znanja s področja citologije, ki so temeljna na drugih področjih biologije.  
Študenti spoznajo področja, kjer uporabljamo znanja biologije celice (npr. ekologija, kmetijstvo, biotehnologija, medicina).  
Študenti razumejo znanstvene prispevke in študijsko literaturo.

**Intended learning outcomes:**

Knowledge and understanding:  
Students understand knowledge concerning cytology, which are essential for other fields of biology.  
They get acquainted with the areas in which cell biology is applied (e.g. ecology, agriculture, biotechnology, medicine).  
Students understand scientific papers and their study literature about cytology and histology.

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**Metode poučevanja in učenja:**

- Predavanja
- Seminarji
- Laboratorijske vaje

**Learning and teaching methods:**

- Lectures
- Seminars
- Laboratory excersises

Delež (v %) /

**Načini ocenjevanja:**

Weight (in %)

**Assessment:**

<p>Način (pisni izpit, ustno izpraševanje, naloge, projekt)</p> <ul style="list-style-type: none"> <li>- Seminarska naloga in njena javna predstavitev (20%)</li> <li>- Pisni izpit (80%)</li> </ul>		<p>Type (examination, oral, coursework, project):</p> <ul style="list-style-type: none"> <li>- Seminar work and public presentation (20%)</li> <li>- Written exam (80%)</li> </ul>
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**Reference nosilca / Lecturer's references:**

LIPOVŠEK DELAKORDA, Saška, LETOFSKY-PAPST, Ilse, HOFER, Ferdinand, LEITINGER, Gerd, DEVETAK, Dušan. The evidence on the degradation processes in the midgut epithelial cells of the larval antlion *Euroleon nostras* (Geoffroy in Fourcroy, 1785) (Myrmeleontidae, Neuroptera). *Micron* (1993). [Print ed.], 2012, vol. 43, iss. 5, str. 651-665.

LIPOVŠEK DELAKORDA, Saška, LETOFSKY-PAPST, Ilse, HOFER, Ferdinand, PABST, Maria Anna, DEVETAK, Dušan. Application of analytical electron microscopic methods to investigate the function of spherites in the midgut of the larval antlion *Euroleon nostras* (Neuroptera: Myrmeleontidae). *Microsc. res. tech.* (Print), 2012, vol. 75, iss. 4, str. 397-407.

ZEMLJIČ, Mateja, LIPOVŠEK DELAKORDA, Saška. Clostridium difficile toxin B induces morphological changes consistent with autophagy in the human adenocarcinoma cell line (HT-29) = Toksin B bakterije Clostridium difficile povzroča morfološke spremembe, ki nakazujejo proces avtofagije v človeških črevesnih epitelnih celicah HT-29. *Acta medico-biotechnica*, 2011, vol. 4, no. 2, str. 61-68.

LIPOVŠEK DELAKORDA, Saška, NOVAK, Tone, JANŽEKVIČ, Franc, PABST, Maria Anna. Role of the fat body in the cave crickets *Troglophilus cavicola* and *Troglophilus neglectus* (Raphidophoridae, Saltatoria) during overwintering. *Arthropod struct. develop.*, 2011, vol. 40, no. 1, str. 54-63.