Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Citološki praktikum**
Course title:	**Practicum of citology**

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Enovit magistrski študijski program druge stopnje Predmetni učitelj	**/**	**2**	**4**
Five-year master's degree program Subject Teacher	**/**		

Vrsta predmeta / Course type Obvezni / Obligatory

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Terenske vaje Field work	Samost. delo Individ. work	ECTS
15			**30**		**45**	**3**

Nosilec predmeta / Lecturer: Saška Lipovšek

Jeziki / Languages:	
Predavanja / Lectures:	slovenski / slovene
Vaje / Tutorial:	slovenski / slovene

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

Jih ni.

Prerequisits:

No.

Vsebina:

Razumevanje biologije celice je temeljno za razumevanje drugih področij biologije. Študenti se seznanijo z raziskovalnimi metodami, ki se uporabljajo v moderni biologiji celice. Študenti spoznajo celične strukture, njihove funkcije.
Povzetek vsebin:

- Metode proučevanja celic
- Celični kompartimenti
- Mitoza, mejoza
- Apoptoza, nekroza

Content (Syllabus outline):

Understanding the biology of the cell is fundamental for understanding of other biological sciences. This subject provides an introduction to the basic methods for studying cells. It focuses on different cell structures and their functions.
Abstract of contents:

- Tools of cell biology
- Cell compartiments
- Mitosis, meiosis
- Apoptosis, necrosis

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.
Veranič P., Romih R., Pšeničnik M. (2009) Praktični pouk celične biologije. Tehniška založba Slovenije, Ljubljana.

Cilji in kompetence:

- Poznavanje struktur in razumevanje osnovnih fizioloških procesov v celici.
- Poznavanje raziskovalnih metod, ki se uporabljajo na področju biologije celice.

Objectives and competences:

- Knowledge of cell structures and understanding of basic processes in the cell.
- Knowledge of basic methods used in the research of the cells.

Predvideni študijski rezultati:

Znanje in razumevanje:
Študenti poznajo in razumejo metode proučevanja celic.
Študenti pridobijo znanja o biologiji celice, ki so potrebna na drugih področjih biologije.
Prenesljive/ključne spretnosti in drugi atributi:
Študenti se usposobijo za delo v biološkem laboratoriju.

Intended learning outcomes:

Knowledge and understanding:
Students understand methods used in modern research of cell biology.
Students capture knowledge of cell biology that is essential to other subjects in the field of biology.
Transferable/Key Skills and other attributes:
Students qualify for work in the biological laboratory.

Metode poučevanja in učenja:

- Predavanja
- Laboratorijske vaje

Learning and teaching methods:

- Lectures
- Laboratory exercises

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
- Kolokvij - Pisni izpit	(30%) (70%)	- Grade in laboratory work (30%) - Written exam (70%)

Reference nosilca / Lecturer's references:

1. 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, ilustr., doi: 10.1016/j.micron.2011.11.012. [COBISS.SI-ID 18855176]
2. 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, ilustr., doi: 10.1002/jemt.21069. [COBISS.SI-ID 18638856]
3. LIPOVŠEK DELAKORDA, Saška, NOVAK, Tone, JANŽEKOVIČ, Franc, PABST, Maria Anna. Role of the fat body in the cave crickets Troglophilus cavicola and Troglophilus neglectus (Rhaphidophoridae, Saltatoria) during overwintering. Arthropod struct. develop., 2011, vol. 40, no. 1, str. 54-63, ilustr. [COBISS.SI-ID 18020104]
4. NYQVIST, Daniel, SPEIER, Stephan, RODRIGUEZ-DIAZ, Rayner, MOLANO, R. Damaris, LIPOVŠEK DELAKORDA, Saška, RUPNIK, Marjan, DICKER, Andrea, ILEGEMS, Erwin, ZAHR-AKRAWI, Elsie, MOLINA, Judith, LOPEZ-CABEZA, Maite, VILLATE, Susana, ABDULREDA, Midhat, RICORDI, Camillo, CAICEDO, Alejandro, PILEGGI, Antonello, BERGGREN, Per-Olof. Donor islet endothelial cells in pancreatic islet revascularization. Diabetes (N. Y. N. Y.), 2011, vol. 60, no. 10, str. 2571-2577, ilustr., doi: 10.2337/db10-1711. [COBISS.SI-ID 18639624]

5. LIPOVŠEK DELAKORDA, Saška, LETOFSKY-PAPST, Ilse, NOVAK, Tone, HOFER, Ferdinand, PABST, Maria Anna. Structure of the Malpighian tubule cells and annual changes in the structure and chemical composition of their spherites in the cave cricket Troglophilus neglectus Krauss, 1878 (Rhaphidophoridae, Saltatoria). Arthropod struct. develop., 2009, vol. 38, no. 4, str. 315-327. http://dx.doi.org/10.1016/j.asd.2009.02.001, doi: 10.1016/j.asd.2009.02.001. [COBISS.SI-ID 16881416]
6. LIPOVŠEK DELAKORDA, Saška, LETOFSKY-PAPST, Ilse, NOVAK, Tone, GIOVANNELLI, Manuela, HOFER, Ferdinand, PABST, Maria Anna. Application of elemental microanalysis to elucidate the role of spherites in the digestive gland of the helicid snail Chilostoma lefeburiana. J. Microsc. (Oxf.), July 2008, vol. 231, no. 1, str. 38-46, ilustr.