



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Splošna zoologija
Course title:	Fundamentals of Zoology

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Univerzitetni študijski program Biologija, 1. stopnja		1.; 1st	2.; 2nd
Undergraduate university programme Biology, 1st degree			

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
45			45		90	6

Nosilec predmeta / Lecturer:

Tina KLENOVŠEK

Jeziki /

Predavanja / Lectures:

slovenski / slovene

Languages:

Vaje / Tutorial:

slovenski / slovene

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

Potrebno je znanje o biologiji celice.

Prerequisites:

Knowledge of cell biology is required.

Vsebina:

- Uvod, zgodovinski razvoj biologije.
- Živalska celica in njene posebnosti.
- Živalska tkiva: epitelno in žlezno tkivo, veziva in opornine, mišično tkivo, živčno tkivo, nenormalna tkiva.
- Zgradba in funkcija organskih sistemov in organov: integument, skelet, gibala, telesne votline, prebavila, dihalna, organi za transport snovi, izločala, čutila, živčevje, endokrini sistem, reproduktivni

Content (Syllabus outline):

- Introduction, history of biological science.
- Animal cell and its specificities.
- Animal tissues: epithelial and gland tissues, connective and skeletal tissues, muscle tissue, nervous tissue, abnormal tissues.
- Structure and function of organ systems and organs: integumentary system, skeleton, motion organs, body cavities, digestion organs, respiratory

sistem. - Združevanje organizmov (kolonije, kormi, jate, črede, krdela). - Razmnoževanje in razvoj. Nespolno razmnoževanje. Spolno razmnoževanje: mejoza in gametogeneza, o semenitev, oploditev, embrionalni razvoj, postembrionalni razvoj, staranje, regeneracija in reparacija. Posebni načini razmnoževanja: partenogeneza, heterogonija, metageneza	organs, circulatory systems, excretion systems, sense organs, nervous system, endocrine systems, reproductive systems - Associations of animals: colonies, corms, flights, flocks, heards. - Reproduction and development. Asexual reproduction. Sexual reproduction: meiosis and gametogenesis, insemination, fertilization, embryonal development, postembryonic development, aging, regeneration and reparation. Special ways of reproduction: parthenogenesis, heterogony and methagenesis.
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Temeljni literatura in viri / Readings:

Solomon, E. P., Berg, L. R., Martin, D. W., 2005: Biology. Thomson Brooks/Cole-Thomson Learning, Belmont, USA.

Štrus, J., 1999: Splošna zoologija. Študentska založba, Ljubljana.

Miller, S. A., Harley, J. P., 2010: Zoology. McGraw-Hill Higher education, Boston, USA.

Klenovšek, T., Lipovšek Delakorda, S., 2013: Splošna zoologija : kompendij z navodili za vaje za študijski program Biologija. Maribor: Fakulteta za naravoslovje in matematiko, Oddelek za biologijo.

Cilji in kompetence:

Pridobitev znanja o osnovnih zakonitostih življenja živali z vidika raznolikosti in obenem enotnosti. Sposobnost razumeti in pojasniti osnovno zgradbo živalskih organizmov in njihovo delovanje na nivoju celic, tkiv, organov, organskih sistemov in skupnosti organizmov. Sposobnost razumeti in pojasniti osnovne procesov razmnoževanja živalskih organizmov.

Objectives and competences:

To gain knowledge on fundamental principles of animal life in aspect of variation and uniformity. To gain the understanding and ability to explain fundamental structures of animal organisms and their function on the levels of cells, tissues, organs, organ systems and associations of animals. To understand and be able to explain basic processes in animal reproduction.

Predvideni študijski rezultati:

Znanje in razumevanje:

- Osnovnih metod eksperimentalnega dela v zoologiji.
- Struktur in funkcij živali od celice do organizma.
- Razumevanje strukturnih prilagoditev, življenjskih procesov in življenjskih ciklov pri živalih.

Prenesljive/ključne spretnosti in drugi atributi:

- Sposobnost dela z optičnim

Intended learning outcomes:

Knowledge and understanding:

- of fundamental experimental methods in zoology.
- of structures and functions of animals from the cell to organismal level.
- of the structural adaptations, life processes and life cycles of animals.

Transferable/Key Skills and other attributes:

- Qualification for work with optical

mikroskopom - Sposobnost sekcije manjših živali - Poznavanje osnovne zgradbe in funkcije živali od celice do organizma	microscope. - Ability of section of small animals. - Fundametal knowledge on structure and function of animals from cell to organism.
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Metode poučevanja in učenja:

Learning and teaching methods:

• Predavanja • Laboratorijske vaje	• Lectures • Laboratory excersises
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Načini ocenjevanja:

Delež (v %) /

Weight (in %)

Assessment:

• Kolokvij in poročilo iz vaj	50	• Report and exam from laboratory exercises
• Pisni in ustni izpit Poročilo iz vaj je pogoj za pristop h kolokviju iz vaj. Opravljen kolokvij iz vaj je pogoj za pristop k izpitu.	50	• Written and oral exam Report from laboratory exercises is a prerequisite for the exam from laboratory exercises, which is both a prerequisite for the final exam.

Reference nosilca / Lecturer's references:

LIPOVŠEK DELAKORDA, Saška, JANŽEKOVICH, Franc, NOVAK, Tone. Autophagic activity in the midgut gland of the overwintering harvestmen *Gyas annulatus* (Phalangidae, Opiliones). *Arthropod structure & development*, ISSN 1467-8039, 2014, str. 1-8, ilustr., doi: 10.1016/j.asd.2014.06.001. [COBISS.SI-ID 20696584]

NOVAK, Tone, ŠAJNA, Nina, ANTOLINC, Estera, LIPOVŠEK DELAKORDA, Saška, DEVETAK, Dušan, JANŽEKOVICH, Franc. Cold tolerance in terrestrial invertebrates inhabiting subterranean habitats. *International journal of speleology*, ISSN 0392-6672, 2014, vol. 43, no. 3, str. r39-r46. <http://dx.doi.org/10.5038/1827-806X.43.3.3>, doi: 10.5038/1827-806X.43.3.3. [COBISS.SI-ID 20595208]

NOVAK, Tone, KOZEL, Peter. *Hadzinia ferrani*, sp. n. (Opiliones: Nemastomatidae), a highly specialized troglobiotic harvestman from Slovenia. *Zootaxa*, ISSN 1175-5326, 2014, vol. 3841, no. 1, str. 135-145, ilustr. <http://biotaxa.org/Zootaxa/article/view/zootaxa.3841.1.8>, doi: 10.11646/zootaxa.3841.1.8. [COBISS.SI-ID 37430317]

KLENOVŠEK, Tina, NOVAK, Tone, ČAS, Miran, TRILAR, Tomi, JANŽEKOVICH, Franc. Feeding ecology of three sympatric *Sorex* shrew species in montane forests of Slovenia. *Folia Zoologica*, ISSN 0139-7893, 2013, vol. 62, no. 3, str. 193-199, ilustr. [COBISS.SI-ID 3707046]

PIPAN, Tanja, FIŠER, Cene, NOVAK, Tone, CULVER, David C. Fifty years of the hypotelminorheic: what have we learned? = Petdeset let hipotelminorejika: kaj smo se naučili?. *Acta carsologica*, ISSN 0583-6050, 2012, letn. 41, št. 2/3, str. 275-285, ilustr. [COBISS.SI-ID 35117357]