



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 Ekologija z naravovarstvom, 1. stopnja		1.; 1st	2.; 2nd
Undergraduate university programme Ecology with Nature Conservation, 1st degree			

Vrsta predmeta / Course type

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:

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

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

Vsebina:
Content (Syllabus outline):

- Osnovne značilnosti živali in živalske celice.
- Osnovni taksonomski in filogenetski pregled živali. Delitev živali glede na različne kriterije.
- Zunanja zgradba glavnih skupin živali.
- Živalska tkiva: epitelno in žlezno tkivo, veziva in opornine, mišično tkivo, živčno tkivo.
- Zgradba in funkcija organskih sistemov in organov živali: integument, ogrodje, gibala, prebavila, dihala, organi za transport snovi, izločala, čutila, živčevje, endokrini sistem, reproduktivni sistem.
- Pregled in primerjava organskih sistemov pri glavnih skupinah živali.
- Razmnoževanje: različni načini nespolnega in spolnega razmnoževanja.

- Basic characteristics of animals and animal cells.
- Basic taxonomic and phylogenetic overview of animals. Division of animals according to various criteria.
- External structure of major animal groups.
- Animal tissues: epithelial and gland tissues, connective and skeletal tissues, muscle tissue, nervous tissue.
- Structure and function of organ systems and organs of animals: integumentary system, skeleton, motion organs, digestion organs, respiratory organs, circulatory systems, excretory systems, sense organs, nervous system, endocrine system, reproductive system.
- Overview and comparison of organ systems in the major animals groups.
- Reproduction: different methods of asexual and sexual reproduction.

Temeljni literatura in viri / Readings:

Hickman, C. P. Jr., Roberts, L. S., Keen, Susan L., Eisenhour, D. J., Larson, A., l'Anson, H., 2014: Integrated Principles of Zoology. McGraw Hill. New York.
 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 procese 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:

Intended learning outcomes:

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 mikroskopom
- Sposobnost sekcije manjših živali
- Poznavanje osnovne zgradbe in funkcije živali od celice do organizma

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 microscope.
- Ability of section of small animals.
- Fundamental knowledge on structure and function of animals from cell to organism.

Metode poučevanja in učenja:

- Predavanja
- Laboratorijske vaje

Learning and teaching methods:

- Lectures
- Laboratory exercises

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
<ul style="list-style-type: none"> • Kolokvij in poročilo iz vaj • Pisni izpit <p>Poročilo iz vaj je pogoj za pristop h kolokviju iz vaj. Opravljen kolokvij iz vaj je pogoj za pristop k izpitu.</p>	<p>50</p> <p>50</p>	<ul style="list-style-type: none"> • Report and exam from laboratory exercises • Written exam <p>Report from laboratory exercises is a prerequisite for the exam from laboratory exercises, which is both a prerequisite for the final exam.</p>

Reference nosilca / Lecturer's references:

KRYŠTUFEK, Boris, KLENOVŠEK, Tina, AMORI, Giovanni, JANŽEKovič, Franc. Captured in "continental archipelago" : phylogenetic and environmental framework of cranial variation in the European snow vole. *Journal of zoology*, ISSN 0952-8369, 2015, vol. 297, iss. 4, str. 270-277, doi: 10.1111/jzo.12274. [COBISS.SI-ID 21572872]

KLENOVŠEK, Tina, KRYŠTUFEK, Boris. An ontogenetic perspective on the study of sexual dimorphism, phylogenetic variability, and allometry of the skull of European ground squirrel, *Spermophilus citellus* (Linnaeus, 1766). *Zoomorphology*, ISSN 0720-213X, 2013, vol. 132, iss. 4, str. 433-445, doi: 10.1007/s00435-013-0196-1. [COBISS.SI-ID 19948296],

KLENOVŠEK, Tina, NOVAK, Tone, ČAS, Miran, TRILAR, Tomi, JANŽEKovič, 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]

KRYŠTUFEK, Boris, KLENOVŠEK, Tina, BUŽAN, Elena, LOY, Anna, JANŽEKOVIČ, Franc. Cranial divergence among evolutionary lineages of Martino's vole, *Dinaromys bogdanovi*, a rare Balkan paleoendemic rodent. *Journal of mammalogy*, ISSN 0022-2372, 2012, vol. 93, iss. 3, str. 818-825, doi: 10.1644/11-MAMM-A-260.2. [COBISS.SI-ID 19312904]

KLENOVŠEK, Tina. Skull modularity of the European ground squirrel *Spermophilus citellus* (Linnaeus, 1766) = Modularnost lobanje evropske tekunice *Spermophilus citellus* (Linnaeus, 1766). *Acta biologica slovenica*, ISSN 1408-3671. [Tiskana izd.], 2014, vol. 57, št. 1, str. 59-67, ilustr. [COBISS.SI-ID 20808456]