



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Sistematika in filogenija nevretenčarjev
Course title:	Systematics and phylogeny of Invertebrates

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Univerzitetni študijski program Biologija, 1. stopnja		2.; 2nd	3.; 3rd
Undergraduate university programme Biology, 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			30	15	120	7

Nosilec predmeta / Lecturer:

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

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

Vsebina:

- Principi živalske sistematike
- Protozoa, praživali
- Porifera, spužve. Placozoa, plakozoji
- Cnidaria, ožigalkarji. Ctenophora, rebrače
- Plathelminthes, ploskavci. Mesozoa.
- "Aschelminthes": Cycloneuralia and Gnathifera
- Mollusca, mehkužci
- Nemertea, nitkarji

Content (Syllabus outline):

- Coping with animal diversity
- Protozoa
- Porifera and Placozoa
- Cnidaria and Ctenophora
- Plathelminthes.Mesozoa
- "Aschelminthes": Cycloneuralia and Gnathifera
- Mollusca
- Nemertea

- Annelida, kolobarniki. Echiurida, zvezdaši
- Arthropoda, členonožci: Trilobitomorpha, Chelicerata, Mandibulata (Crustacea, Myriapoda, Hexapoda)
- Lophophorata, lofoforati.
- Chaetognatha, ščetinočeljstnice
- Hemichordata, polstrunarji. Chordata, strunarji
- Echinodermata, iglokožci
- Evolucija nevretenčarjev

- Annelida. Echiurida.
- Arthropoda: Trilobitomorpha, Chelicerata, Mandibulata (Crustacea, Myriapoda, Hexapoda)
- Lophophorata
- Chaetognatha
- Hemichordata and Chordata
- Echinodermata
- Patterns of Invertebrate Evolution

Temeljni literatura in viri / Readings:

- Devetak, D., Klokočovnik, V. (2013). Praktikum iz zoologije nevretenčarjev. Fakulteta za naravoslovje in matematiko. Maribor.
- Brusca, R. C., G. J. Brusca, 2002: Invertebrates. 2nd ed. Sinauer, Sunderland.
- Ruppert, E. E., R. D. Barnes, 2002: Invertebrate Zoology. 6th ed. Saunders College Publishing, Philadelphia, New York.
- Ruppert, E.E., Fox R.S., Barnes R.D. (2004). Invertebrate Zoology. A functional evolutionary approach. 7th Ed. Thomson, Victoria, Toronto, London.
- Sket, B., M. Gogala, V. Kuštor, 2003: Živalstvo Slovenije. Tehniška založba, Ljubljana
- Nielsen, C. (2012). Animal evolution : interrelationships of the living phyla. Oxford University Press, Oxford.

Cilji in kompetence:

- Predstaviti temeljne skupine nevretenčarjev
- Podati povezavo med gradbenim planom in načinom življenja
- Predstaviti raznolikost in kompleksnost nevretenčarjev
- Podati evolucijski pristop pri študiju nevretenčarjev

Objectives and competences:

- To present fundamental invertebrate groups
- To give the relations between animal "Bauplan" and its environment
- To present diversity and complexity of Animal Kingdom
- To give an evolutionary approach in the study of invertebrates

Predvideni študijski rezultati:

Znanje in razumevanje:

- Povezava med organizacijo živalskega telesa in okoljem živali
- Kompleksnost živalskih skupin
- Poznavanje biodiverzitete na svetovnem nivoju
- Razumevanje glavnih evolucijskih trendov pri nevretenčarjih

Prenesljive/ključne spretnosti in drugi atributi:

Intended learning outcomes:

Knowledge and understanding:

- Relation between animal organisation and its environment
- Complexity of animal groups
- Knowledge of biodiversity at the global level
- Understanding of the major evolutionary trends in invertebrates

Transferable/Key Skills and other attributes:

- Ability to arrange simple observations and

- Sposobnost načrtovati in izvesti preprosta opazovanja in eksperimente na nevretenčarjih
- Sposobnost ovrednotiti rezultate poskusa

- experiments with invertebrates
- Ability to evaluate results of an experiment

Metode poučevanja in učenja:

Learning and teaching methods:

- Predavanja
- Laboratorijske vaje – individualno eksperimentalno delo
- Terensko delo

- Lectures
- Laboratory excersises – individual experimental practice
- Field work

Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

<ul style="list-style-type: none"> • Kolokvij iz vaj • Pisni izpit 	<p>50</p> <p>50</p>	<ul style="list-style-type: none"> • Examination of exercises • Written examination
<p>Pozitivno opravljen kolokvij iz laboratorijskih vaj je pogoj za pristop k izpitu.</p>		<p>Positive result of the exercise examination is a prerequisite for the written exam.</p>

Reference nosilca / Lecturer's references:

- DEVETAK, D., KLOKOČOVNIK, V., LIPOVŠEK, S., BOCK, E., LEITINGER, G. (2013). Larval morphology of the antlion *Myrmecaelurus trigrammus* (Pallas, 1771) (Neuroptera, Myrmeleontidae), with notes on larval biology. *Zootaxa*, 3641(4): 491-500.
- DEVETAK, D., OMERZU, M., CLOPTON, R. E. (2013). Notes on the gregarines (Protozoa: Apicomplexa: Eugregarinorida) of insects in Slovenia. *Annales, Series historia naturalis*, 23 (1): 73-89.
- DEVETAK, D., PODLESNIK, J., KLOKOČOVNIK, V., JANŽEKOVIČ, F. (2013). Antlions (Insecta: Neuroptera: Myrmeleontidae) of Albania. *Turkish journal of zoology*, 37(3): 362-366.
- DEVETAK, D., KLOKOČOVNIK, V., RAUSCH, H., JANŽEKOVIČ, F. (2014). Fauna of the Neuropterida (Raphidioptera, Neuroptera) of the Protected area Jasen, Macedonia : a summer flash. *Turkish journal of zoology*, 1-13.