Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Izbrana poglavja iz entomologije**
Course title:	**Selected Topics in Entomology**

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Doktorski študij Ekološke znanosti, 3. stopnja		1. ali 2.; 1st or 2nd	1.- 4.; 1st-4th
Doctoral Study Ecological Sciences, 3rd degree			

Vrsta predmeta / Course type Izbirni/Elective

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			10	5	150	6

Nosilec predmeta / Lecturer: Dušan DEVETAK

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisits:
Jih ni.	No prerequisites.

Vsebina:	Content (Syllabus outline):
Obravnavana so izbrana poglavja iz naslednjih poglavij: Pregled morfologije, anatomije in fiziologije žuželk. Interakcije med žuželkami in drugimi organizmi. Uvod v medicinsko entomologijo. Invazivne žuželke. Varstvo biodiverzitete žuželk.	Selected topics in the following chapters are discussed: A review of the morphology, anatomy, and physiology of insects. Interactions between insects and other organisms. An introduction to medical entomology. Invasive insects. Insect diversity conservation.

Temeljni literatura in viri / Readings:

Temeljni viri / Basic:

– Gullan, P.J., P.S. Cranston, 2015: The Insects: An Outline of Entomology 5th Edition. WileyBlackwell, West Sussex, UK.

– Devetak, D., V. Klokočovnik V., 2016: The feeding biology of adult lacewings (Neuroptera): a review. Trends in Entomology 12: 29-42.

Priporočeni viri / Recommended:

– Chapman, R.F., S. J. Simpson, A. E. Douglas, 2012: The insects. Structure and function. 4th Edition. Cambridge University Press, London.

– Dettner, K., W. Peters, 2010: Lehrbuch der Entomologie. Elsevier GmBH, München.

– Harrison, J.F., H.A. Woods, S.P. Roberts, 2012: Ecological and environmental physiology of insects. Oxford University Press, Oxford.

– Jurc, M., 2011: Gozdna zoologija (3. natis). Univerza v Ljubljani, Biotehniška fakulteta, Oddelek za gozdarstvo in obnovljive gozdne vire.

– Pedigo, L.P., M.E. Rice, 2015: Entomology and Pest Management, Sixth Edition. Waveland Press, Inc, Long Grove, IL.

– Resh, V. H., R. T. Cardé, 2009: Encyclopedia of insects 2nd Edition. Academic Press – Elsevier, New York.

– Schowalter, T. D., 2016: Insect ecology. An ecosystem approach. 4th ed. Elsevier, Amsterdam.

– Wermelinger, B., 2017: Insekten im Wald – Vielfalt, Funktionen und Bedeutung. Eidg. Forschungsanstalt WSL, Birmensdorf; Haupt, Bern.

Cilji in kompetence:

- Poznavanje biologije žuželk in razumevanje interakcij med žuželkami in drugimi organizmi.
- Z razumevanjem bionomije, avtekologije in demekologije različnih žuželčjih vrst študentje podrobno spoznajo njihovo vlogo in pomen v ekosistemu.
- Podrobno razumejo potrebe po naravovarstvu žuželk.

Objectives and competences:

- Understanding biology of insects and their interactions with other organisms.
- By understanding the bionomy, autecology, and demecology of various insect species in detail, students learn about their role and importance in ecosystem.
- Understanding in detail the need for conservation of insects.

Predvideni študijski rezultati:

Intended learning outcomes:

Po uspešno opravljeni učni enoti naj bi bili študenti zmožni: - pojasniti in diskutirati prednosti holometabolnih žuželk pred hemimetabolnimi; - razumeti in pojasniti kompleksno vlogo žuželk v ekosistemih; - razložiti vlogo izbranih žuželk v gozdnih in kmetijskih ekosistemih.	By the end of this course students should be able to: - explain and discuss the advantage of holometabolous vs hemimetabolous insects; - understand and explain complex role of insects in ecosystems; - explain the role of selected insects in forest and agricultural ecosystems.

Metode poučevanja in učenja:	**Learning and teaching methods:**
- Predavanja - Terensko delo - Laboratorijsko delo.	- Lectures - Field work - Laboratory work.

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
- Seminarska naloga - Pisni izpit	50 % 50 %	- Seminar essay - Written exam

Reference nosilca / Lecturer's references:

KLOKOČOVNIK, Vesna, DEVETAK, Dušan. Efficiency of antlion trap design and larval behavior in capture success. *Behavioral ecology*. 2022, vol. 33, no. 1, str. 184-189, ilustr. ISSN 1045-2249. [COBISS.SI-ID 84527107].

DEVETAK, Dušan, PODLESNIK, Jan, SCHARF, Inon, KLENOVŠEK, Tina. Fine sand particles enable antlions to build pitfall traps with advanced three-dimensional geometry. *Journal of Experimental Biology*. Aug. 2020, vol. 223, no. 15, str. 1-10. ISSN 0022-0949. [COBISS.SI-ID 28827907].

IVAJNŠIČ, Danijel, DEVETAK, Dušan. GIS-based modelling reveals the fate of antlion habitats in the Deliblato Sands. *Scientific reports*. 2020, vol. 10, art. no. 5299, str. 1-9. ISSN 2045-2322. [COBISS.SI-ID 16499971].

PODLESNIK, Jan, KLOKOČOVNIK, Vesna, LORENT, Vincent, DEVETAK, Dušan. Prey detection in antlions : propagation of vibrational signals deep into the sand. *Physiological entomology*. 2019, vol. 44, iss. 3/4, str. 215-221. ISSN 0307-6962. [COBISS.SI-ID 24646664].