



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Izbrana poglavja iz etologije
Course title:	Selected Topics in Ethology

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. 2. ali 3. ; 1st, 2nd or 3rd
Doctoral Study Ecological Sciences, 3rd 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
5			5		140	5

Nosilec predmeta / Lecturer:

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

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

Poznavanje fiziologije živali na ravni univerzitetnega programa ter metod dela v fiziologiji živali na ravni drugostopenjskega študija

Prerequisites:

Knowledge of animal physiology at graduate level, and of methods in animal physiology at master level

Vsebina:

Obravnavana so izbrana poglavja iz naslednjih sklopov.

- Evolucijski pristop k študiju vedenja živali
- Raznolikost vedenja
- Vedenje in dednost
- Razvoj vedenja
- Živčne osnove vedenja
- Organizacija vedenja
- Trendi v evoluciji vedenja
- Evolucija adaptacij. Evolucija komunikacij
- Izbira habitata, migracije, teritorialnost
- Adaptivno prehranjevalno vedenje

Content (Syllabus outline):

Selected topics in the following chapters are discussed.

- An evolutionary approach to animal behaviour
- The diversity of behaviour
- The genetics of behaviour
- The development of behaviour
- The neural basis of behaviour
- The organization of behaviour
- The evolution of behaviour: historical pathways
- The evolution of adaptations and communication
- Habitat selection, migration, territoriality
- Adaptive feeding behaviour

- Adaptacije na plenilstvo
- Razmnoževalne strategije; ekologija razmnoževanja
- Skrb za potomstvo
- Ekologija socialnega vedenja
- Evolucijski pristop k študiju vedenja človeka

- Coping with predators
- Reproductive tactics; the ecology of mating system
- Care for offspring
- The ecology of social behaviour
- An evolutionary approach to human behaviour

Temeljni literatura in viri / Readings:

- Alcock, J., (2013). Animal behavior: an evolutionary approach. 10th ed. Freeman, Sunderland.
- Manning, A., Stamp Dawkins, M. (2012). An introduction to animal behaviour. Cambridge University Press
- Stamp Dawkins, M. (2007). Observing animal behaviour : design and analysis of quantitative data. Oxford University Press
- McFarland, D. (1999). Animal Behaviour : Psychobiology, ethology and evolution. Pearson: Prentice Hall.

Cilji in kompetence:

- Študenti
- Podrobno razumejo metode, ki se uporabljajo pri študiju vedenja
 - Podrobno usvojijo temeljna znanja za raziskovanje kompleksnosti vedenja
 - Podrobno spoznajo, da se je vedenje med evolucijo spreminjalo
 - Podrobno spoznajo področja, na katerih se aplicirajo znanja etologije (npr. sociologija, filozofija, psihologija)

Objectives and competences:

- Students:
- Advanced understanding methods used in behavioural studies
 - Advanced knowledge necessary to study complexity of behaviour
 - Advanced understanding evolutionary trends in behaviour
 - Students get acquainted in detail with the areas in which ethology is applied (e. g. sociology, philosophy, psychology)

Predvideni študijski rezultati:

Znanje in razumevanje:

- Študenti
- Podrobno razumejo povezavo med vedenjem in evolucijo
 - Podrobno spoznajo kompleksnost vedenja
 - Podrobno razumejo živčne osnove vedenja
 - Podrobno razumejo adaptivno vlogo plastičnosti vedenja
 - Podrobno razumejo pomen socialnega vedenja

Prenesljive/ključne spretnosti in drugi atributi:

- Sposobnost podrobno načrtovati in izvesti zahtevne eksperimente za testiranje odzivov živali na kontrolirane spremembe v njenem okolju
- Sposobnost podrobno ovrednotiti rezultate etološkega poskusa

Intended learning outcomes:

Knowledge and understanding:

- Students:
- Advanced understanding of relations between behaviour and evolution
 - Become aware of details of the complexity of behaviour
 - Advanced understanding of the neural basis of behaviour
 - Advanced understanding of an adaptive role of plasticity of behaviour
 - Advanced understanding of the significance of social behaviour

Transferable/Key Skills and other attributes:

- Ability to arrange complex experiments testing behavioural responses of an animal to controlled changes of its environment
- Ability to evaluate results of a behavioural experiment in detail

Metode poučevanja in učenja:**Learning and teaching methods:**

– Predavanja
 – Laboratorijske vaje – individualno eksperimentalno delo

– Lectures
 – Laboratory excersises – individual experimental practice

Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

– Kolokvij iz vaj
 – Pisni izpit

50%
 50%

– Examination of experimental practice
 – Written exam

Reference nosilca / Lecturer's references:

1. KLOKOČOVNIK, Vesna, DEVETAK, Dušan. Pit-builder vs non-pit-builder : advantage of trap building strategy in antlion larvae does not mean greater behaviour diversity. *Behaviour*, ISSN 0005-7959, 2014, vol. 151, issue 5, str. 653-668, ilustr. <http://booksandjournals.brillonline.com/content/journals/10.1163/1568539x-00003156>, doi: [10.1163/1568539X-00003156](https://doi.org/10.1163/1568539X-00003156). [COBISS.SI-ID [20356872](#)], [JCR, SNIP, WoS do 5. 5. 2014: št. citatov (TC): 0, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0, Scopus do 14. 4. 2014: št. citatov (TC): 0, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0]
2. KLOKOČOVNIK, Vesna, DEVETAK, Dušan, ORLAČNIK, Marina. Behavioral plasticity and variation in pit construction of antlion larvae in substrates with different particle sizes. *Ethology*, ISSN 0179-1613, Nov. 2012, vol. 118, iss. 11, str. 1102-1110, doi: [10.1111/eth.12012](https://doi.org/10.1111/eth.12012). [COBISS.SI-ID [19324936](#)], [JCR, SNIP, WoS do 7. 5. 2014: št. citatov (TC): 1, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0, Scopus do 16. 4. 2014: št. citatov (TC): 2, čistih citatov (CI): 1, normirano št. čistih citatov (NC): 1]
3. MENCINGER VRAČKO, Bojana, DEVETAK, Dušan. Orientation of the pit-building antlion larva Euroleon (Neuroptera, Myrmeleontidae) to the direction of substrate vibrations caused by prey. *Zoology*, ISSN 0944-2006. [Print ed.], 2008, vol. 111, iss. 1, str. 2-8, ilustr. [COBISS.SI-ID [15674632](#)], [JCR, SNIP, WoS do 6. 5. 2014: št. citatov (TC): 5, čistih citatov (CI): 3, normirano št. čistih citatov (NC): 2, Scopus do 15. 4. 2014: št. citatov (TC): 6, čistih citatov (CI): 4, normirano št. čistih citatov (NC): 3]