



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Osnove etologije
Course title:	Foundations of Ethology

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Academic year	Semester Semester
Univerzitetni študijski program Biologija, 1. stopnja		2., 3.	4.
Undergraduate university programme Biology, 1 st cycle		2 nd , 3 rd	4 th

Vrsta predmeta / Course type

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Druge oblike študija	Samost. delo Individ. work	ECTS
30			15		135	6

Nosilec predmeta / Lecturer:

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

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

Jih ni.

Prerequisites:

None.

Vsebina:

- Iz zgodovine študija 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
- Adaptacije na plenilstvo
- Razmnoževalne strategije; ekologija razmnoževanja
- Skrb za potomstvo
- Ekologija socialnega vedenja
- Etološke osnove vedenja človeka

Content (Syllabus outline):

- On the history of the study of 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
- Coping with predators
- Reproductive tactics; the ecology of mating system
- Care for offspring
- The ecology of social behaviour
- Ethological basis of human behaviour

Temeljni literatura in viri / Readings:**Temeljni viri/ Basic literature:**

- Manning, A., Stamp Dawkins, M. (2012). An introduction to animal behaviour. Cambridge University Press

Dopolnilni viri/ Recommended literature:

- Rubenstein, D.R., Alcock, J., (2018). Animal behavior. 11th ed. Oxford University Press
- Davies, N. B., Krebs, J. R., West, S. A. (2012). An Introduction to Behavioural Ecology. Fourth edition. Wiley-Blackwell.
- Martin, P. R., Bateson, P. P. G. (2010). Measuring behaviour : an introductory guide. Cambridge University Press.

Cilji in kompetence:**Študenti:**

- opredelijo različne tipe vedenj na osnovi primerov;
- razumejo vpliv notranjih in zunanjih dejavnikov na vedenje;
- znajo uporabiti različne metode pri študiju vedenja;
- razložijo, kako se je vedenje med evolucijo spreminjalo;
- povežejo etologijo in druga področja, na katerih se aplicirajo znanja etologije

Objectives and competences:**Students:**

- identify different types of behaviour based on examples;
- understand the effect of internal and external factors on the behaviour;
- understand different methods used in behavioural studies;
- understand evolutionary trends in behaviour;
- In addition, students get acquainted with the areas in which ethology is

(npr. sociologija, filozofija, psihologija, kmetijstvo);

- samostojno zasnujejo ter izvedejo etološki poskus
- kritično ovrednotijo rezultate poskusa

applied (e. g. sociology, philosophy, psychology, agriculture);

- perform an ethological experiment independently
- - critically evaluate the result of experiment

Predvideni študijski rezultati:

Po opravljeni učni enoti naj bi bili študenti zmožni:

- prepoznati različne tipe vedenj na osnovi primerov;
- razumeti povezavo med vedenjem in evolucijo;
- pojasniti kompleksnost vedenja;
- razumeti in razložiti živčne osnove vedenja;
- razložiti adaptivno vlogo plastičnosti vedenja;
- razložiti socialno vedenje ter njegov pomen
- aplicirati znanje o vedenju živali na druga področja

Prenesljive/ključne spretnosti in drugi atributi:

- znajo načrtovati in izvesti preproste etološke eksperimente
- znajo ovrednotiti rezultate etološkega poskusa
- Pripraviti ter opraviti predstavitev

Intended learning outcomes:

Knowledge and understanding:
Students:

- identify different types of behaviour on a case-by-case basis;
- understand connection between behaviour and evolution;
- understand and become aware of the complexity of behaviour;
- understand the neural basis of behaviour;
- understand and explain an adaptive role of plasticity of behaviour;
- explain the significance of social behaviour.
- apply knowledge about animal behavior on other areas.

Transferable/Key Skills and other attributes:

- ability to plan and perform simple ethological experiments
- ability to evaluate the results of a behavioural experiment
- prepare and perform presentation

Metode poučevanja in učenja:

Predavanja
Laboratorijske vaje
Individualno eksperimentalno delo

Learning and teaching methods:

Lectures
Laboratory exercises
Individual experimental work

Načini ocenjevanja:

Delež (v %) /

Weight (in %) /

Assessment:

<ul style="list-style-type: none"> – Kolokvij iz vaj – Individualno eksperimentalno delo s predstavitvijo – Pisni izpit 	<p>25 %</p> <p>25 %</p> <p>50 %</p>	<ul style="list-style-type: none"> – Examination of exercises – Individual experimental work and presentation – Written examination
<p>Pozitivno opravljena kolokvij iz laboratorijskih vaj in individualnega eksperimentalnega dela s predstavitvijo sta pogoja za pristop k izpitu.</p>		<p>Positive results of the laboratory exercise examination and individual experimental work with presentation are prerequisites for the written exam.</p>

Reference nosilca / Lecturer's references:

KLOKOČOVNIK, V., DEVETAK, D., ORLAČNIK, M. (2012). Behavioral plasticity and variation in pit construction of antlion larvae in substrates with different particle sizes. *Ethology*, 118 (11): 1102-1110.

KLOKOČOVNIK, V., DEVETAK, D. (2014). Pit-builder vs non-pit-builder : advantage of trap building strategy in antlion larvae does not mean greater behaviour diversity. *Behaviour*, 151(5): 653-668.

KLOKOČOVNIK, Vesna, HAUPTMAN, Gregor, DEVETAK, Dušan. (2016). Effect of substrate temperature on behavioural plasticity in antlion larvae. *Behaviour*, ISSN 0005-7959, 2016, vol. 153, issue 1, str. 31-48, doi: 10.1163/1568539X-00003322. [COBISS.SI-ID 21695496]

KLOKOČOVNIK, Vesna, ŠORGO, Andrej, DEVETAK, Dušan. Hands-on experiments on predatory behaviour with antlion larvae. *Journal of Biological Education*, ISSN 0021-9266, 2016, vol. 50, no. 4, str. 384-394, ilustr., doi: 10.1080/00219266.2015.1117513. [COBISS.SI-ID 21928200]