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

Vrsta predmeta / Course type	izbirni / Elective
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:	Vesna Klokočovnik

Jeziki / Languages:	**Predavanja / Lectures:**	**slovenski / slovenian**
	Vaje / Tutorial:	**slovenski / slovenian**

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites:**
Jih ni.	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 developement 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. Wiely-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:

Intended learning outcomes:

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	Knowledge and understanding: Students: - identify different types of behaviour on a case-by-case basis; - understand connection between bahaviour 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 performsimple ethological experiments - ability to evaluate the results of a behavioural experiment - prepare and perform presentation

Metode poučevanja in učenja:

Learning and teaching methods:

Predavanja Laboratorijske vaje Individualno eksperimentalno delo	Lectures Laboratory exercises Individual experimental work

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
– Kolokvij iz vaj – Individualno eksperimentalno delo s predstavitvijo – Pisni izpit Pozitivno opravljena kolokvij iz laboratorijskih vaj in individualnega eksperimentalnega dela s predstavitvijo sta pogoja za pristop k izpitu.	25 25 50	– Examination of exercises – Individual experimental work and presentation – Written examination Positive results of the laboratory exercise examination and individual experimental work with presentation are prerequisites for the 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. DOI: 10.1093/beheco/arab124. [COBISS.SI-ID 84527107] financer: ARRS, Programi, P1-0403, SI, Računsko intenzivni kompleksni sistemi; Razvoj raziskovalne infrastrukture za mednarodno konkurenčnost slovenskega RRI prostora - RI-SI-LifeWatch.

KLOKOČOVNIK, Vesna, VELER, Eva, DEVETAK, Dušan. Antlions in interaction : confrontation of two competitors in limited space. Israel journal of ecology & evolution. 2020, vol. 66, iss. 1/2, str. 73-81, ilustr. ISSN 1565-9801. DOI: 10.1163/22244662-20191058. [COBISS.SI-ID 24894216] financer: ARRS, Programi, P1-0403 (A), SI, Računsko intenzivni kompleksni sistemi.

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. DOI: 10.1111/phen.12295. [COBISS.SI-ID 24646664]financer: ARRS, Programi, P1-0403, SI, Računsko intenzivni kompleksni sistemi.