Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Vedenjska ekologija**
Course:	**Behavioural Ecology**

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Academic year	Semester Semester
Biologija in ekologija z naravovarstvom, 2. stopnja	/	1/2	Poletni/ zimski
Biology and Ecology with Nature Conservation, 2nd cycle	/	1/2	Summer/ Winter

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
15	15		15		135	6

Nosilec predmeta / Lecturer: Vesna Klokočovnik

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisits:
Jih ni.	None.

Vsebina: **Content (Syllabus outline):**

Uvod v vedenjsko ekologijo Naravna selekcija, ekologija in vedenje Plenilsko vedenje: Interakcija med plenilcem in plenom, Evolucijska oborožena bitka Spolni izbor, kompeticija sperme in spolni konflikt Starševska skrb in družinski konflikti	behavior - An introduction in Behavioural Ecology - Natural selection, ecology and behavior - Predatory behavior, Predator-prey interactions, Evolutionary Arm Races - Sexual selection, sperm competition and sexual conflict - Parental care and family conflicts

Temeljni literatura in viri / Readings:

Temeljna literatura/ Basic literature:
- Davies, N. B., Krebs, J. R., West, S. A. (2012). An Introduction to Behavioural Ecology. Fourth edition. Wiely-Blackwell.

Priporočena literatura/ Recommended literature:
- MacKay, J. R. D. (2018). Animal Personality: The Science Behind Individual Variation. 5m Publishing
- Rubenstein, D.R., Alcock, J., (2018). Animal behavior. 11th ed. Oxford University Press.
- Manning, A., Stamp Dawkins, M. (2012). An introduction to animal behaviour. Cambridge University Press
- Martin, P. R., Bateson, P. P. G. (2010). Measuring behaviour : an introductory guide. Cambridge University Press.

Cilji in kompetence:	**Objectives and competences:**
- na posameznih primerih razložijo, kako se je vedenje spreminjalo skozi evolucijski razvoj - razumejo, kako je vedenje živali prilagojeno na okolje v katerem živijo; - znajo razložiti razlike med vzrokom in funkcijo vedenja; - razložijo interakcije med plenom in plenilcem - na primerih razložijo spolni izbor ter njegov pomen; - razložijo evolucijo starševske skrbi pri posameznih skupinah organizmov ter navedejo kakšne so koristi ter slabosti starševstva ter vloga posameznega spola; - znajo poiskati ustrezno literaturo; - znajo zasnovati, izvesti vedenjski poskus ter ustrezno interpretirati rezultate;	- on study cases explain how behaviour has changed through evolutionary development; - understand how behaviour of animals is adapted to the environment in which they live; - explain the differences between the cause and the function of behaviour; - explain predatory-prey interactions; - on study cases explain sexual selection; - explain the evolution of parental care in different groups of animals and understand the costs and benefits of parental care; - search for basic literature; - know how to design behavioural experiment and interpret the results.

Predvideni študijski rezultati:	**Intended learning outcomes:**

Po uspešno opravljeni učni enoti so študentje zmožni: - razložiti povezavo med vedenjem in evolucijo ter okoljem; - navesti primere interakcij med plenom in plenilcem; - navesti primere starševske skrbi; - na primerih razložiti, kako poteka spolni izbor; - razlikovati med vzrokom in funkcijo vedenja; - zasnovati in izvesti eksperiment; - predstaviti ter interpretiretirati svoje rezultate. Prenesljive/ključne spretnosti in drugi atributi: Sposobnost načrtovati ter izvesti vedenjski poskus Uporabiti ustrezno metodologijo dela Sposobnost interpretirati rezultate poskusa Povezati pomen in spreminjanje vedenja v povezavi z evolucijo in okoljem.	After the course, student are able to: - explainrelations between bahaviour vs. evolution and environment; - give examples of predator-prey interactions; - give examples of parental care; - on the study cases explain sexual selection - differ between the cause and function of behavior; - design and perform an experiment; - present and interpret the results. Transferable/Key Skills and other attributes: Ability to design and perform behavioural experiment; Ability to use appropriate methods of work Ability to interpret the results of experiment Understand the connection between behaviour vs. evolution and the environment.

Metode poučevanja in učenja:	**Learning and teaching methods:**
Predavanja Seminarji Laboratorijske vaje - individualno eksperimentalno delo	Lectures Seminars Laboratory exercises – individual experimental practice

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
- Individualno raziskovalno delo s predstavitvijo (seminarska naloga) - Pisni izpit Pozitivno opravljena predstavitev (seminarska naloga) individualnega eksperimentalnega dela je pogoj za pristop k izpitu.	50 50	- Individaul experimental work with presentation (seminar essay) - Written exam A positive result of individual experimental work (presentation) is a prerequisite 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

DEVETAK, Dušan, PODLESNIK, Jan, KLOKOČOVNIK, Vesna. Predator-prey interactions in antlions: transmission of vibrational signals deep into the sand. Acta entomologica slovenica. dec. 2018, vol. 26, št. 2, str. 121-130, ilustr. ISSN 1318-1998. [COBISS.SI-ID 1957365]

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