



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., 6
Undergraduate university programme Biology, 1 st cycle		2 nd , 3 rd	4 th , 6 th

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:

Vaje / Tutorial:

slovenski / slovenian

slovenski / slovenian

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

Pozitivno opravljeno laboratorijsko delo in raziskovalna naloga sta pogoj za pristop k pisnemu izpitu.
Vsaka izmed naštetih obveznosti v načinih ocenjevanja mora biti opravljena s pozitivno oceno.

Prerequisites:

Positive result of the laboratory work and research paper are a prerequisite for the written exam.
Each of the mentioned commitments must be assessed with a passing grade.

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:**

- Rubenstein, D. R. (2023). Animal behavior (International 12th ed., str. 1 zv. (loč. pag.)). Sinauer Associates, [an imprint of] Oxford University Press.
- Breed, M. D., & Moore, J. (2022). Animal behavior (3rd ed., str. XI, 588). Elsevier; Academic Press

Dopolnilni viri/ Recommended literature:

- Rubenstein, D. R., & Alcock, J. (2019). Animal behavior (International 11th ed., str. XXI, 480, 91). Sinauer Associates, [an imprint of] Oxford University Press.
- Manning, A., & Dawkins, M. S. (2012). An introduction to animal behaviour (6th ed., str. IX, 458). 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;

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;

- razložijo, kako se je vedenje med evolucijo spreminjalo; - povežejo etologijo in druga področja, na katerih se aplicirajo znanja etologije (npr. sociologija, filozofija, psihologija, kmetijstvo); - samostojno zasnujejo ter izvedejo etološki poskus - kritično ovrednotijo rezultate poskusa	- understand evolutionary trends in behaviour; - In addition, students get acquainted with the areas in which ethology is applied (e. g. sociology, philosophy, psychology, agriculture); - perform an ethological experiment independently - critically evaluate the result of experiment
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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
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Metode poučevanja in učenja:

Learning and teaching methods:

Predavanja Laboratorijske vaje Individualno eksperimentalno delo	Lectures Laboratory exercises Individual experimental work
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Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

Laboratorijsko delo	25	Laboratory work
Raziskovalna naloga		Research paper
Pisni izpit	25	Written exam
	50	.

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](https://doi.org/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](https://doi.org/10.1163/22244662-20191058). [COBISS.SI-ID 24894216] financer: ARRS, Programi, P1-0403 (A), SI, Računsko intenzivni kompleksni sistemi.

KLOKOČOVNIK, Vesna, BANTAN, Tadeja, DEVETAK, Dušan. From individuals to populations : how homo- and heterospecific interactions influence habitat selection in a sit-and-wait predator. *Ethology*. 2023, vol. 129, iss. 10, str. 507-514. ISSN 0179-1613. DOI: [10.1111/eth.13387](https://doi.org/10.1111/eth.13387). [COBISS.SI-ID [155745539](#)] financer: ARRS, Programi, P1-0403, SI, Računsko intenzivni kompleksni sistemi; Razvoj raziskovalne infrastrukture za mednarodno konkurenčnost slovenskega RRI prostora - RI-SI-LifeWatch.