Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Etologija**
Course title:	**Ethology**

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Univerzitetni študijski program Biologija, 1. stopnja		**2.; 2nd**	**4.; 4th**
Undergraduate university programme Biology, 1st degree			

Vrsta predmeta / Course type	Izbirni/Elective
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
30			**15**		**135**	**6**

Nosilec predmeta / Lecturer:	Dušan DEVETAK

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Jih ni.	No.

Vsebina:	**Content (Syllabus outline):**
• Živčne osnove vedenja: sporazumevanje v živčnem sistemu. Hormoni. • Prirojeni in pridobljeni vzorci vedenja; ključni dražljaji in prožilni mehanizmi. • Kineze, taksije, migracije. • Signalizacija in komunikacija pri živalih. • Učenje in spomin. Asociativno in neasociativno učenje • Iskanje hrane, spolno vedenje, starševstvo. Altruistično vedenje.	• The neural basis of behaviour: communication in the nervous system. Hormones. • Innate and acquired behavioural patterns; key stimuli and releasing mechanisms. • Kinesis, taxis, migration. • Animal signals and communication. • Learning and memory. Associative and non-associative learning • Foraging, sexual behaviour, parental behaviour. Altruism.

• Variabilnost in evolucija vedenja.	• Variability and evolution of behaviour

Temeljni literatura in viri / Readings:

• Alcock, J., (2013). Animal behavior: an evolutionary approach. 10th ed. Freeman, Sunderland.
Dugatkin, L. A. (ed.), (2001). Model systems in behavioral ecology. Princeton University Press, Princeton.
• Manning, A., Stamp Dawkins, M. (2012). An introduction to animal behaviour. Cambridge University Press
• Stamp Dawkins, M. (2007). Observing animal behaviour : desing and analysis of quantitative data. Oxford University Press

Cilji in kompetence:	**Objectives and competences:**
Študenti: • razumejo metode, ki se uporabljajo pri študiju vedenja; • osvojijo temeljna znanja za raziskovanje kompleksnosti vedenja; • spoznajo, da se je vedenje med evolucijo spreminjalo; • spoznajo področja, na katerih se aplicirajo znanja etologije (npr. sociologija, filozofija, psihologija).	Students: • understand basic methods used in behavioural studies, • acquire basic knowledge necessary to study complexity of behaviour; • understand evolutionary trends in behaviour; • In addition, students get acquainted with the areas in which ethology is applied (e. g. sociology, philosophy, psychology)

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: Študenti: • razumejo povezavo med vedenjem in evolucijo; • spoznajo kompleksnost vedenja; • razumejo ţ ivčne osnove vedenja; • razumejo adaptivno vlogo plastičnosti vedenja; • razumejo pomen socialnega vedenja **Prenesljive/ključne spretnosti in drugi atributi:** • Sposobnost načrtovati in izvesti preproste eksperimente za testiranje odzivov živali na kontrolirane spremembe v njenem okolju. • Sposobnost ovrednotiti rezultate	**Knowledge and understanding:** Students: • understand connection between bahaviour and evolution; • become aware of the complexity of behaviour; • understand the neural basis of behaviour; • understand an adaptive role of plasticity of behaviour; • understand the significance of social behaviour. **Transferable/Key Skills and other attributes:** • Ability to arrange simple experiments testing behavioural responses of an animal to controlled changes of its environment. • Ability to evaluate results of a

etološkega poskusa.	behavioural experiment.

Metode poučevanja in učenja:	**Learning and teaching methods:**
• Predavanja • Laboratorijske vaje – individualno eksperimentalno delo	• Lectures • Laboratory excersises – individual experimental practice

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
• Kolokvij iz vaj • Seminarska naloga in predstavitev • Pisni izpit Pozitivno opravljena kolokvij iz laboratorijskih vaj in seminarska naloga sta pogoja za pristop k izpitu.	 30 30 40	• Examination of exercises • Seminar essay • Written examination Positive results of the exercise examination and seminar essay are prerequisites for the written exame.

Reference nosilca / Lecturer's references:

• DEVETAK, D., NOVAK, T., JANŽEKOVIČ, F. (2012). Effect of substrate density on behaviour of antlion larvae (Neuroptera: Myrmeleontidae). *Acta oecologica*, 43: 1-7
• DEVETAK, D., LIPOVŠEK DELAKORDA, S., PABST, M. A. (2010). Morphology and biology of the antlion *Myrmeleon yemenicus* Hölzel, 2002 (Neuroptera, Myrmeleontidae). *Zootaxa*, 2531: 48-56
• 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.