



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

<b>Predmet:</b>	Etologija
<b>Course title:</b>	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., 3.	4.
Undergraduate university programme Biology, 1st degree		2nd	4th

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:

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.
- Variabilnost in evolucija vedenja.

- 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.
- Variability and evolution of behaviour

### Temeljni literatura in viri / Readings:

- 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
- 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:
- 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).

### Objectives and competences:

- 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:

- Znanje in razumevanje:  
Študenti:
- razumejo povezavo med vedenjem in evolucijo;
  - spoznajo kompleksnost vedenja;
  - razumejo živčne osnove vedenja;
  - razumejo adaptivno vlogo plastičnosti vedenja;
  - razumejo pomen socialnega vedenja

### Intended learning outcomes:

- Knowledge and understanding:  
Students:
- understand connection between behaviour and evolution;
  - become aware of the complexity of behaviour;
  - understand the neural basis of behaviour;

**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 etološkega poskus

- 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 behavioural experiment

**Metode poučevanja in učenja:**

Predavanja  
Laboratorijske vaje – individualno eksperimentalno delo

**Learning and teaching methods:**

Lectures  
Laboratory excersises – individual experimental practice

Delež (v %) /

**Načini ocenjevanja:**

Weight (in %)

**Assessment:**

– Kolokvij iz vaj		– Examination of exercises
– Seminarska naloga in predstavitev	30	– Seminar essay
– Pisni izpit	30	– Written examination
	40	
Pozitivno opravljena kolokvij iz laboratorijskih vaj in seminarska naloga sta pogoja za pristop k izpitu.		Positive results of the exercise examination and seminar essay are prerequisites for the written exam.

**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. 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]