



OPIS PREDMETA / SUBJECT SPECIFICATION

Predmet:	Ekofiziologija členonožcev
Subject Title:	Ecophysiology of Arthropods

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
Biologija in ekologija z naravovarstvom /Biology and ecology with nature conservation	Biologija / Biology	2	3

Univerzitetna koda predmeta / University subject code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Lab. work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
30	30		15		135	7

Nosilec predmeta / Lecturer:

Jeziki / Predavanja / Lecture:
Languages: Vaje / Tutorial:

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

Vsebina:	Contents (Syllabus outline):
<ul style="list-style-type: none">Zaznavanje dražljajev v okolju. Svetloba, toplota, mehanski in kemijski dražljaji.Ekološki optimumi in preferendumi členonožcev.Substrat in medij.Ekologija prehrane in prebave členonožcev. Specialisti in generalisti. Prebava celuloze in hitina. Analiza vsebine prebavnega trakta.Ocenjevanje sekundarne bioprodukcije.Prezimovanje in presnova. Viri energije za metabolne procese pri členonožcih: glikogen in lipidi.	<ul style="list-style-type: none">Sensory reception and the environment. Light, temperature, mechanical and chemical stimuli.Ecological optima and preferenda in arthropods.Substrate and medium.Ecology of nutrition and digestion. Specialists and generalists. Digestion of cellulose and chitin. Intestinal contents analysis.Estimation of the secondary production.Overwintering and metabolism. Energizing matter in arthropods: glycogen and lipids.

Temeljni študijski viri / Textbooks:

- Barth, F.G., 2002: A spider's world: senses and behavior. Springer, Berlin.
- Dusenbery D. B., 1995: Sensory ecology: How organisms acquire and respond to information. W. H. Freeman and Company, New York.
- Heinrich, B., 1981: Insect thermoregulation. John Wiley & Sons, New York.
- Huffaker C. B., R. L. Rabb, 1984: Ecological entomology. John Wiley & Sons, New York.
- Lehrer, M., 1997: Orientation and communication in arthropods. Birkhäuser, Basel.
- Pinto-da-Rocha, R.; G. Machado, G. Giribet, 2006: Harvestman: The Biology of Opiliones. Harvard University Press, Cambridge, MA.

- Southwood, T. R. F., 1992: Ecological methods. Chapman and Hall.
- Withers, P. C., 2002: Comparative Animal Physiology. Saunders College Publishing, Philadelphia, New York.

Cilji:

- Opraviti raziskave na terenu in v laboratoriju ter povezati različne organizacijske nivoje, od molekularnega do ekosistemskega
- Podati povezavo med živalskim organizmom in njegovim zunanjim in notranjim okoljem
- Razumevanje različnih vedenjskih, fizioloških in biokemijskih strategij kot prilagoditev na določene biotske in abiotske dejavnike okolja

Objectives:

- To conduct studies in the field and in laboratory, and to span different levels of organisation from the molecular to the ecosystemal one
- To give relations between animal organism and its internal and external environment
- To understand various behavioural, physiological and biochemical strategies of arthropods in interacting their biotic and abiotic environments

Predvideni študijski rezultati:

Znanje in razumevanje:

- Razumevanje vedenjskih, fizioloških in biokemijskih strategij, ki omogočajo uspešnost členonožcev v okolju
- Razumevanje funkcioniranja živalskega organizma v povezavi z njegovim zunanjim in notranjim okoljem

Prenesljive/ključne spretnosti in drugi atributi:

- Sposobnost opraviti terenske in laboratorijske ekofiziološke raziskave na različnih nivojih, od molekularnega do ekosistemskega
- Sposobnost ovrednotiti rezultate ekofizioloških poskusov s členonžci

Intended learning outcomes:

Knowledge and Understanding:

- Understanding of behavioural, physiological and biochemical strategies employed to achieve survival and success in environment
- Understanding of functioning of animal organism with regard to its internal and external environment.

Transferable/Key Skills and other attributes:

- Ability to conduct the in the field and laboratory ecophysiological studies at different levels, from the molecular to the ecosystemal
- Ability to evaluate results of ecophysiological experiments on arthropods

Metode poučevanja in učenja:

- Predavanja
- Laboratorijske vaje – individualno eksperimentalno delo

Learning and teaching methods:

- Lectures
- Laboratory excersises – individual experimental practice

Načini ocenjevanja:

- Kolokvij iz vaj
- Seminarska naloga
- Pisni zpit

Delež (v %) /
Weight (in %)

30
30
40

Assessment:

- Partial exam of experimental practice
- Seminar essay
- Written exam

Materialni pogoji za izvedbo predmeta :

Material conditions for subject realization

- *Multimedijska predavalnica*
- *Laboratorij za fiziologijo živali*

- *Lecture hall for multimedia presentation*
- *Laboratory for animal physiology*

Obveznosti študentov:

Students' commitments:

(pisni, ustni izpit, naloge, projekti)

(written, oral examination, coursework, projects):

- Kolokvij iz vaj
- Seminarska naloga
- Pisni zpit

- Partial exam of experimental practice
- Seminar essay
- Written exam