



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

### UČNI NAČRT PREDMETA / COURSE SYLLABUS

**Predmet:** Biodiverzitetni vzorci in procesi  
**Course title:** Biodiversity patterns and processes

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Doktorski študij Ekološke znanosti, 3. stopnja		1. ali 2.; 1st or 2nd	1.- 4.; 1st-4th
Doctoral Study Ecological Sciences, 3rd 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
10	10	10			150	6

**Nosilec predmeta / Lecturer:**

Franc Janžekovič

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

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

**Prerequisites:**

#### Vsebina:

Obravnavana so izbrana poglavja iz naslednjih sklopov:  
Razprava o biodiverziteti v globalnem merilu: temelji ekološkega in evolucijskega ozadja. Abundanca, redkosti in izumrtje. Izguba habitatov, njihova degradacija in fragmentacija. Zbiranje biodiverzitetnih podatkov, njihova organizacija v podatkovne nize in podatkovne zbirke.

#### Content (Syllabus outline):

Selected topics in the following chapters are discussed.  
Discussion on biodiversity on global scale: ecological and evolution background. Abundance, rarity, extinctions. Habitat loss, their degradation and fragmentation. Collecting biodiversity data, their organization in database collections. Procedure of calculating and evaluating

Postopki izračunavanja in vrednotenja indeksov vrstne diverzitete in endemizma, ugotavljanje biodiverzitetnih vzorcev.

Konvencija o biodiverziteti.

species biodiversity and endemism index, establishing biodiversity patterns.

Convention on biological diversity.

#### **Temeljna literatura in viri / Readings:**

Kryštufek B., 1999. Osnove varstvene biologije. TZS. Ljubljana.  
Legendre P., Legendre L., 2012. Numerical Ecology. Elsevier. Amsterdam.  
Singer F.D., 2016. Ecology in Action. Cambridge University Press.

#### **Cilji in kompetence:**

Podrobno razumejo izbrane ekološke in evolucijske vsebine biodiverzitete.  
Podrobno se seznanijo z naravnimi (abundanca, redkosti, izumrtje) in antropogenimi (izguba, degradacija, fragmentacija habitatov, globalne klimatske spremembe) gonilnimi silami biodiverzitete.  
Zbiranje in organizacija podatkov o biodiverziteti.  
Uporaba izbranih metod in postopkov za vrednotenje biodiverzitete na vrstnem in ekosistemskem nivoju.  
Uporaba računalniških orodij za zbiranje in obdelavo biodiverzitetnih podatkov.

#### **Objectives and competences:**

Advanced knowledge about selected ecological and evolutionary chapters of biodiversity.  
Advanced knowledge of natural (abundance, rarity, extinction) and anthropogenic (habitat loss, degradation, fragmentation, global climate change) driving forces of biodiversity.  
Collecting and organizing selected data on biodiversity.  
Use of selected methods and procedures for evaluation of biodiversity on species and ecosystem level.  
Use of software for collecting and processing biodiversity data.

#### **Predvideni študijski rezultati:**

##### **Znanje in razumevanje:**

Poglobljeno razumevanje naravne in antropogene gonilne sile biodiverzitete.

**Prenesljive/ključne spretnosti in drugi atributi:**

#### **Intended learning outcomes:**

##### **Knowledge and understanding:**

Advanced understanding knowledge about natural and anthropogenic driving forces of biodiversity.

**Transferable/Key Skills and other attributes:**

Študentje usvojijo kreativno znanje o globalnih vzorcih in procesih biodiverzitete. Skozi poznavanje mednarodnih konvencij so študentje sposobni kreativno sodelovati v študijah in voditi študije o biodiverziteti na različnih nivojih.

Students capture creative knowledge about global biodiversity patterns and processes. On the basis of knowledge of international biodiversity convention, students are capable to creatively take part in and to conduct biodiversity studies on different levels.

**Metode poučevanja in učenja:**

**Learning and teaching methods:**

Predavanja  
Seminar  
Vaje

Lecture  
Seminar  
Exercises

Delež (v %) /

**Načini ocenjevanja:**

Weight (in %)

**Assessment:**

Seminarska naloga	50	Seminar essay
Ustni izpit	50	Oral exam

**Reference nosilca / Lecturer's references:**

KRYŠTUFEK, Boris, KLENOVŠEK, Tina, AMORI, Giovanni, JANŽEKOVIČ, Franc. Captured in "continental archipelago" : phylogenetic and environmental framework of cranial variation in the European snow vole. *Journal of zoology*, ISSN 0952-8369, 2015, vol. 297, iss. 4, str. 270-277, doi: [10.1111/jzo.12274](https://doi.org/10.1111/jzo.12274).

NOVAK, Tone, PERC, Matjaž, LIPOVŠEK DELAKORDA, Saška, JANŽEKOVIČ, Franc. Duality of terrestrial subterranean fauna. *International journal of speleology*, ISSN 0392-6672, 2012, vol. 41, no. 2, str. 181-188, doi: [10.5038/1827-806X.41.2.5](https://doi.org/10.5038/1827-806X.41.2.5).

KRYŠTUFEK, Boris, KLENOVŠEK, Tina, BUŽAN, Elena, LOY, Anna, JANŽEKOVIČ, Franc. Cranial divergence among evolutionary lineages of Martino's vole, *Dinaromys bogdanovi*, a rare Balkan paleoendemic rodent. *Journal of mammalogy*, ISSN 0022-2372, 2012, vol. 93, iss. 3, str. 818-825, doi: [10.1644/11-MAMM-A-260.2](https://doi.org/10.1644/11-MAMM-A-260.2).