



Univerza v Mariboru



Univerza v Mariboru

Fakulteta za naravoslovje in  
matematiko

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

|                      |                |
|----------------------|----------------|
| <b>Predmet:</b>      | Biodiverziteta |
| <b>Course title:</b> | Biodiversity   |

| Študijski program in stopnja        | Študijska smer | Letnik         | Semester       |
|-------------------------------------|----------------|----------------|----------------|
| Study programme and level           | Study field    | Academic year  | Semester       |
| Izobraževalna biologija, 1. stopnja |                | <b>2 ali 3</b> | <b>5 ali 6</b> |
| Educational Biology, 1st degree     |                |                |                |

**Vrsta predmeta / Course type** Izbirni / elective

**Univerzitetna koda predmeta / University course code:**

| Predavanja | Seminar | Sem. vaje | Lab. vaje       | Teren. vaje | Samost. delo  | ECTS     |
|------------|---------|-----------|-----------------|-------------|---------------|----------|
| Lectures   | Seminar | Tutorial  | Laboratory work | Field work  | Individ. work |          |
| <b>15</b>  |         |           | <b>15</b>       |             | <b>150</b>    | <b>6</b> |

**Nosilec predmeta / Lecturer:** Franc JANŽEKOVIČ

|                                      |                               |                      |
|--------------------------------------|-------------------------------|----------------------|
| <b>Jeziki /</b><br><b>Languages:</b> | <b>Predavanja / Lectures:</b> | Slovenski /Slovenian |
|                                      | <b>Vaje / Tutorial:</b>       | Slovenski /Slovenian |

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

**Prerequisites:**

**Vsebina:**

- Konvencija o biološki raznovrstnosti
- Opredelitev biodiverzitete v globalnem merilu; temelji ekološkega in evolucijskega ozadja
- Ekosistemske funkcije in usluge
- Abundanca, redkost in izumrtje
- Izguba habitatov, njihova degradacija in fragmentacija
- Demografija in genetika v študijah viabilnosti populacij; primeri
- Biodiverziteta posameznih taksonomskih skupin; vzorci in trendi pri izbranih skupinah rastlin in živali

**Content (Syllabus outline):**

- Convention on biological diversity
- Definition of biodiversity on global scale: ecological and evolutionary background
- Ecosystem functiona and services
- Abundance, rarity, extinctions.
- Habitat loss, their degradation and fragmentation
- Demography and genetics in population viability studies: case studies
- Biodiversity among taxonomical groups; patterns and trends within selected taxonomic groups

**Temeljni literatura in viri / Readings:**

- Dobson, A. P., 1995: Conservation and Biodiversity. American Scientific Library, New York.
- Kryštufek, B. 1999: Osnove varstvene biologije. Tehniška založba Slovenije, Ljubljana.
- Levin, S. A. 2001: Encyclopedia of biodiversity. Academic Press, cop. San Diego.
- Sodhi N.S., P.R. Ehrlich 2010. Conservation Biology for All. Oxford University Press.

**Cilji in kompetence:**

- Študenti se seznanijo z ekološkimi in evolucijskimi temelji biodiverzitete
- Spoznajo biogeografsko razdelitev in njeno vrstno biodiverzitetu po taksonomskih skupinah
- Spoznajo naravne (abundanca, redkost, izumrtje) in antropogene (izguba, degradacija, fragmentacija habitatov) gonilne sile biodiverzitete

Seznanijo se s stanjem biodiverzitete in konvencijami o biodiverziteti

**Objectives and competences:**

- Students learn the ecological and evolutionary backgrounds of biodiversity.
- Students get knowledge about biogeographic division and species biodiversity among taxonomical groups.
- Students get insight of natural (abundance, rarity, extinction) and anthropogenic (habitat loss, degradation, fragmentation) driving forces of biodiversity.

Students get insight about current status of biodiversity and learn about conventions regarding biodiversity

**Predvideni študijski rezultati:****Znanje in razumevanje:**

- Študent dobi pregled nad definicijami, pomenom in pomembnostjo biodiverzitete na globalni, EU in nacionalni ravni
- Študent razume naravne in antropogene gonilne sile biodiverzitete in dobi vpogled v vrstno biodiverzitetu različnih taksonomskih skupin

Spozna mednarodne konvencije s področja biodiverzitete

**Intended learning outcomes:****Knowledge and understanding:**

- Student get an overview on the definitions, meaning and importance of biodiversity on global, EU and national scale
- Student learn about natural and anthropogenic driving forces of biodiversity, and get insights about species biodiversity in different taxonomical groups

Student learn about international conventions regarding biodiversity

**Metode poučevanja in učenja:**

- Predavanja
- Laboratorijske vaje

**Learning and teaching methods:**

- Lectures
- Laboratory excersises

Delež (v %) /

**Načini ocenjevanja:**

**Weight (in %)**

**Assessment:**

|   |              |  |
|---|--------------|--|
| <ul style="list-style-type: none"><li>• Seminarska naloga</li><li>• Pisni izpit</li></ul> | 50<br><br>50 | <ul style="list-style-type: none"><li>• Seminar essay</li><li>• Written exam</li></ul> |
|---|--------------|--|

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

KRYŠTUFEK, Boris, JANŽEKOVIČ, Franc, REŽEK DONEV, Nataša. Elevational diversity of reptiles on two Dinaric mountains. *J. Nat. Hist.*, Feb. 2008, vol. 42, no. 5/8, str. 399-408.

KRYŠTUFEK, Boris, ŠORGO, Andrej, JANŽEKOVIČ, Franc. Elevational distribution of small terrestrial mammals on Mt. Pohorje, Slovenia = Distribuzione altitudinale di piccoli mammiferi terrestri sul monte Pohorje, Slovenia. *Ann, Ser. hist. nat.*, 2010, vol. 20, št. 2, str. 113-122.

JANŽEKOVIČ, Franc, NOVAK, Tone. PCA - a powerful method for analyze ecological niches. V: SANGUANSAT, Parinya (ur.). *Principal component analysis - multidisciplinary applications*. Rijeka: InTech, 2012, str. 127-142.

NOVAK, Tone, PERC, Matjaž, LIPOVŠEK DELAKORDA, Saška, JANŽEKOVIČ, Franc. Duality of terrestrial subterranean fauna. *Int. J. Speleol. (Ed. ital.)*, 2012, vol. 41, no. 2, str. 181-188.