



OPIS PREDMETA / SUBJECT SPECIFICATION

<b>Predmet:</b>	<b>Speleobiologija</b>
<b>Subject Title:</b>	Speleobiology

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
Ekologija z naravovarstvom/Ecology with Nature Conservation		3	zimski ali letni

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
15				30	135	6

Nosilec predmeta / Lecturer:

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

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

**Vsebina:**

- Uvod v speleobiologijo
- Jame, špranje, umetni rovi, podzemeljsko površinsko okolje, tla
- Izviri, intersticalno okolje, hipotelminoreik, jezerske in morske globine, morske jame
- Troglomorfoze: velikost trupa in okončin, anoftalmija, depigmentiranost, apterizem, fizogastrija, psevdofizogastrija
- Troglobionti, troglifili, troglokseni; freatobionti; stigobionti
- Pregled organizmov v podzemlju: prokarioti; glive; rastline; živali
- Porifera, Protozoa, Cnidaria, Turbellaria, Nemertea, Nematoda, Mollusca, Polychaeta, Oligochaeta, Hirudinea, Chelicerata, Crustacea, Myriapoda, Insecta, Vertebrata
- Geografska razširjenost podzemeljskih živali
- Fiziologija in etologija podzemeljskih živali
- Evolucija podzemeljskih živali
- Slovenija kot država z največjo diverziteto podzemeljskih taksonov v svetovnem merilu
- Pregled najvažnejših podzemeljskih živali

**Contents (Syllabus outline):**

- Introduction into speleobiology
- Caves, fissures, artificial tunnels, superficial hypogean environment, soils
- Springs, interstitial environment, hypotelminoreic environment, deep lake and deep sea regions, marine caves
- Troglomorphoses: body and appendages size, anophthalmia, apterism, physogastry, pseudophysogastry
- Troglobionts, troglaphiles, troglonexes; freatobionts; stygobionts
- Review of organisms in the hypogean environments: Procaryota, Fungi, Plants, Animals
- Porifera, Protozoa, Cnidaria, Turbellaria, Nemertea, Nematoda, Mollusca, Polychaeta, Oligochaeta, Hirudinea, Chelicerata, Crustacea, Myriapoda, Insecta, Vertebrata
- Geographical distribution of the hypogean organisms
- Physiology and ethology of the hypogean organisms
- Evolution of the hypogean organisms
- Slovenija as the state with the highest diversity

- of the hypogean organisms in the World
- Review of the most prominent hypogean animals

**Temeljni študijski viri / Textbooks:**

Temeljna:

- Chapman, P., 1993: Caves and cave life. Harper Collins, London.
- Culver, D. C., W. B. White (eds.), 2005: Encyclopedia of caves. Elsevier/Academic Press, Amsterdam/Boston.
- Pipan, T., 2005: Epikarst – a promising habitat. Carsologica, Založba ZRC, Ljubljana.

Dodatna:

- Sket B., Paragamian K., Trontelj P., 2004. A census of the obligate subterranean fauna of the Balkan peninsula. In: Griffiths H. I., B. Kryštufek (eds.): Balkan Biodiversity. Pattern and Process in Europe's Biodiversity Hotspot. Kluwer Academic Publishers: 309-322.
- Juberthie, C. & V. Decu (eds.), 1992-1996: Encyclopaedia biospeologica I-III. Societé de biospéologie, Moulis, Bukarest.
- Gunn, J., 2004: Encyclopedia of caves and karst science. Taylor & Francis Books Inc., New York/London.

**Cilji:**

- Podati pregled tipov in značilnosti podzemeljskih habitatov
- Podati pregled tipov in značilnosti podzemeljskih organizmov
- Predstaviti poseben status Slovenije glede diverzitete podzemeljskih taksonov

**Objectives:**

- To give an overview of typology and characteristics of hypogean habitats
- To give an overview of typology and characteristics of hypogean organisms
- To present the prominent position of Slovenia as for the diversity of the hypogean taxa

**Predvideni študijski rezultati:**

Znanje in razumevanje:

- Ekološke značilnosti podzemeljskih habitatov
- Biotske značilnosti podzemeljskih organizmov
- Zgodovina speleobiologije in trendi modernih znanstvenih raziskav
- Poznavanje osnovnih vzorčevalnih metod v podzemeljskih habitatih

Prenesljive/ključne spretnosti in drugi atributi:

- Prepoznavanje troglomorfoz in troglomorfoznih organizmov
- Usposobljenost za biološko raziskovalno delo v podzemeljskih votlinah

**Intended learning outcomes:**

Knowledge and Understanding:

- Ecological characteristics of hypogean habitats
- Biotic characteristics of hypogean organisms
- The history of speleobiology and modern trends of scientific investigations
- Knowledge about the elementary sampling methods in hypogean habitats

Transferable/Key Skills and other attributes:

- Recognition of troglomorphoses and troglomorphic organisms
- Capability of biological investigations in cavities

**Metode poučevanja in učenja:**

- Predavanja
- Laboratorijske vaje
- Terenske vaje
- Individulano načrtovanje izbrane raziskave

**Learning and teaching methods:**

- Lectures
- Laboratory excersises
- Field excersises
- Individual planning of a selected investigation

**Načini ocenjevanja:**

Delež (v %) /  
Weight (in %)

**Assessment:**

<ul style="list-style-type: none"> <li>• Seminaraska naloga</li> <li>• Pisni izpit</li> </ul>	<p>20 80</p>	<ul style="list-style-type: none"> <li>• Seminar essay</li> <li>• Written examination</li> </ul>
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**Materialni pogoji za izvedbo predmeta :**

- *Multimedijska predavalnica*
- *Laboratorij z mikroskopi, binokularnimi lupami in kemijskim instrumentarijem*
- *Ekskurzije na teren*

**Material conditions for subject realization**

- *Lecture hall for multimedia presentations*
- *Laboratory with microscopes, binocular lenses and chemical instruments*
- *Field excursions*

**Obveznosti študentov:**

*(pisni, ustni izpit, naloge, projekti)*

- Seminaraska naloga
- Pisni izpit

**Students' commitments:**

*(written, oral examination, coursework, projects):*

- Seminar essay
- Written examination