



OPIS PREDMETA / SUBJECT SPECIFICATION

Predmet:	Ekologija tal
Subject Title:	Soil Ecology

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
Biologija in ekologija z naravovarstvom /Biology and Ecology with Nature Conservation	Ekologija z naravovarstvom / Ecology with Nature Conservation	1	1

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	15		30	15	120	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):**
Tla so plast kopenskih ekosistemov z najintenzivnejšimi procesi razkrajanja odmrlih organskih snovi v teh ekosistemih. Predstavljeni so osnovni klimatoconalni tipi tal. Specializirana živa bitja tal zasedajo številne ekološke niše, v procesih pretvorbe snovi vseskozi sodelujejo zlasti bakterije in glive. Talne živali intenzivno sodelujejo pri razkosovanju večjih kosov, skeletiranju listov ter mešanju in rahljanju tal. Razložen je proces humifikacije in vloga posameznih sestavin tal za njihove lastnosti. Tla so obravnavana ekološko, izpostavljena je živa komponenta tal. Podan je pregled osnovnih tipov tal in glavnih skupin organizmov v njih. Predstavljene so značilnosti edafobiontov, vključno z njihovimi posebnimi prilagoditvami na življenje v tleh ter njihovimi ekološkimi nišami.
Soils are a stratum of terrestrial ecosystems characterized for their most intensive decomposition processes within these ecosystems. The essential climatoconal soils are presented. Specialized soil organisms possess several ecological niches, while the bacteria and fungi are throughout intensively engaged in the soil processes. Edaphic animals are engaged in cutting up bigger particles, skeletonizing leaves, mixing soil particles and making them loose. The humification process is discussed, as well as the role of each soil compartment contributing to the unique properties of soils. Soils are discussed in the ecological point of view, stressing their biota. A review of the basic soil types and the representative organisms within them are given. The characteristics of the edaphobionts, their special adaptations to the life within soils, and their ecological niches are presented.

Temeljni študijski viri / Textbooks:

- Coleman, D. C., Crossley, D. A. Jr., P. F. Hendrix, 2004: Fundamentals of soil ecology. Elsevier Acad. Press.
- Mršič, N., 1997: Živali naših tal. Tehniška založba Slovenije.
- Stritar, A., 1990. Krajina, krajinski sistemi. Raba in varstvo tal v Sloveniji. Partizanska knjiga, Ljubljana: 1990.
- Vovk Korže, A., F. Lovrenčak, 2004: Priročnik za spoznavanje prsti na terenu. Ljubljana; Maribor: Filozofska fakulteta Univerze v Ljubljani, Oddelek za geografijo.
- Vrščaj, B., T. Prus, F. Lobnik, 2005. Soil information and soil data use in Slovenia. V: Jones, R. J. A., B.

Houšková, P. Bullock, L. Montanarella (ur.). Soil resources of Europe, (European Soil Bureau Research Report, No. 9, EUR 20559 EN). 2nd ed. Luxembourg: Office for Official Publications of the European Communities.

- Wall, D. H., 2004: Sustaining biodiversity and ecosystem services in soils and sediments. Island Press, Washington.
- Izbrani članki iz revij/Selected papers from the journals Pedobiologia, European Journal of Soil Biology itd./etc.

Cilji:

- Študenti se seznanijo s tlemi kot kompleksnim sistemom
- Spoznajo osnovne pedogenetske procese
- Spoznajo vlogo talnih organizmov v teh procesih

Objectives:

- Students learn about soils as complex systems.
- Students get insights of basic pedogenetic processes.
- Students get knowledge about the role of edaphic organisms in those processes.

Predvideni študijski rezultati:

Znanje in razumevanje:

- Študenti dobijo pregled nad tipi tal v svetu in v Sloveniji
- Razumejo osnovne pedogenetske procese
- Prepoznajo življenjski tip edafobionta

Prenesljive/ključne spretnosti in drugi atributi:

- Študenti se usposobijo za opravljanje osnovnih pedoloških analiz
- Znajo oceniti ekološko stanje v določenem talnem habitatu in predvideti rešitve morebitnih aktualnih problemov

Intended learning outcomes:

Knowledge and Understanding:

- Students provide an overview of soil types in the World and in Slovenia.
- They understand the basic pedogenetic processes.
- They recognize the living form of edaphobionts.

Transferable/Key Skills and other attributes:

- Students capture the knowledge for carrying out the basic pedological analyses.
- They can estimate the ecological conditions within a selected soil habitat, and to make decisions about the appropriate way of solving of eventual actual problems.

Metode poučevanja in učenja:

- Predavanja
- Seminar
- Laboratorijske vaje
- Terenske vaje
- Samostojno delo

Learning and teaching methods:

- Lectures
- Seminar
- Laboratory exercise
- Field work
- Individual work

Načini ocenjevanja:

Delež (v %) /
Weight (in %)

Assessment:

- Praktični kolokvij iz reševanja izbranega ekološkega problema tal
- Pisni izpit

50
50

- Practical partial exam of searching a solution of a selected ecological soil problem
- Written exam

Materialni pogoji za izvedbo predmeta :

Material conditions for subject realization

- *Multimedijska predavalnica*
Mikroskopirnica

- *Lecture hall for multimedia presentations*
- *Microscope Practicum*

Obveznosti študentov:**Students' commitments:**

(pisni, ustni izpit, naloge, projekti)

(written, oral examination, coursework, projects):

- Praktični kolokvij iz reševanja izbranega ekološkega problema tal
- Pisni izpit

- Practical partial exam of searching a solution of a selected ecological soil problem
- Written exam