



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Izbrana poglavja iz terestricnih habitatov
Course title:	Selected Topics in Terrestrial Habitats

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. 2. ali 3. ; 1st, 2nd or 3rd
Doctoral Study Ecological Sciences, 3rd degree			

Vrsta predmeta / Course type

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
5				5	140	5

Nosilec predmeta / Lecturer:

Jeziki /	Predavanja / Lectures:	slovenski / slovene
Languages:	Vaje / Tutorial:	slovenski / slovene

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

Poznavanje biologije, ekologije in biodiverzitete na ravni drugostopenjskega programa

Prerequisites:

Knowledge of biology, ecology and biodiversity at master level

Vsebina:

Obravnavana so izbrana poglavja iz naslednjih sklopov.

- Primarne in sekundarne sukcesije na primerih vodnih in obvodnih habitatov (mlaka oz. mrtvica, mocvirje, loka, log, gozd; protipoplavni nasipi in erozija ter izsuševanje vodnih habitatov v zaledju kanaliziranih vodotokov) – v Prekmurju
- Razlike med tradicionalno in intenzivno gospodarjenimi habitatmi (kroženje snovi v naravi, mineralizacija in toksifikacija zemljišč, erozija, izraba humusa, steljarjen in nesteljarjen gozd, biodiverziteta talnih organizmov, habitatsko siromašenje pokrajine,

Content (Syllabus outline):

Selected topics in the following chapters are discussed.

- Primary and secondary succesions in case of water and near-water habitats (pools, bog, marsh, rish fens, swamp woods, forest) – in Prekmurje
- Differences between traditionally and intensively treated habitats (matter cycling in nature, mineralisation and toxification of soils, erosion, humus exploitation, litter exploitation, biodiversity of soil organisms, habitat degradation in landscapes, agrarian soil degradation) – Prekmurje and Svecina
- Hypogean habitats (specific circumstances,

agrarna degradacija prsti) – v Prekmurju in Svecini

- Podzemeljski habitati (specifne razmere, ekotona območja med epigejicnimi in hipogejicnimi habitati) – jame na obrobju Planinskega polja
- Mrazišča in topli habitati (termofilni in kaldofilni organizmi, tipi mrazišč, toplotni in vegetacijski ter favnistični obrat v soteskah in v visokogorju) – v Trnovskem gozdu, soteski Hudi luknji
- Znacilni gozdni habitati
- Znacilni travniški habitati (suhi, mokrotni travniki, gnojeni, travniški sadovnjak) – na Pohorju, Kozjanskem
- Antropogeni habitati (mestna ter vaška bivalna območja, industrijska in prometna območja, območja eksploatacije surovin) – v Mariboru, Raci in okolici
- Odlagališča komunalnih odpadkov (kemizem odloženih odpadkov, deponijski plin, monitoring odlaganja, sonaravne čistilne naprave – trstične grede) – na odlagališču v Mislinjski Dobravi
- Antropogeno oblikovani in vzdrževani sonaravni habitati (park, botančni vrt, zelenica, mejica, drevored, obrežna vegetacija) – v Mariboru in v Prekmurju

ecotone regions between epigean and hypogean habitats) – caves at the edge of Planinsko polje

- Cold stations and habitats with thermophilous biota (thermophilous, cold-adapted organisms, types of cold stations, thermal and vegetational and faunistic inversion in gorges and in highlands) – Trnovski gozd, Huda luknja gorge
- Types of forest habitats
- Types of grassland habitats (harz, humid grasslands, fertilized grasslands, northern fruit) – the Pohorje Mts., Kozjansko
- Habitats in managed landscape (towns- and villages living habitats, industrial and traffic regions, places of raw materials exploitation) – Maribor, Race and their surroundings
- Municipal waste landfill (chemistry of disposed wastes, landfill gas, monitoring of waste disposal, management of waste disposal, semi-natural cleaning stations: reed bed – sustainable reclamation of landfill sites) communal waste landfill Mislinjska Dobrava
- Man-made and man managed habitats (park, botanic garden, green surface, hedge, tree line, riparian vegetation) – Maribor, Prekmurje

Temeljni literatura in viri / Readings:

- Barbour, M. G., J. H. Burk, W. D. Pitts, 1987: Terrestrial plant ecology. The Benjamin/Cummings Publ. Comp.
- Chapin, F. S., P. A. Matson, H. A. Mooney, 2002: Principles of terrestrial ecosystem ecology. Springer Verlag.
- Gradiva o obiskanih habitatih / Materials about visited habitats

Cilji in kompetence:

- Študenti podrobno spoznajo praktične primere obravnavanih teoretičnih vsebin o ekologiji terestričnih habitatov

Objectives and competences:

- Students get familiar in detail with theoretical knowledge of ecology of terrestrial habitats visiting and discussing selected habitat cases

Predvideni študijski rezultati:

- Znanje in razumevanje:
- Študenti znajo uporabiti teoretično ekološko znanje na izbranih primerih habitatov
 - Znajo analizirati ekološke razmere v izbranem habitatu
 - V antropogenih in sonaravnih habitatih znajo presoditi, kateri ukrepi bili potrebni za izboljšanje stanja

Intended learning outcomes:

- Knowledge and Understanding:
- Students are able to apply theoretical ecological knowledge on selected habitat cases
 - They are able to analyze ecological circumstances in selected cases
 - In anthropogenic and managed semi-natural habitats, they are able to judge about required measures to improve the conditions

Prenesljive/ključne spretnosti in drugi atributi:

- Znajo narediti splošni sanacijski nacrt za izboljšanje stanja

Transferable/Key Skills and other attributes:

- They are skilled to make general sanitary plan to improve the conditions

Metode poučevanja in učenja:

- Terenske vaje
- Seminar

Learning and teaching methods:

- Field work
- Seminar

Načini ocenjevanja:

- Seminarska naloga o konkretnem terenskem delu
- Ustni zagovor

Delež (v %) /
Weight (in %)

80 %

20%

Assessment:

- Seminar essay on a concrete field work
- Oral defense

Reference nosilca / Lecturer's references:

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. [COBISS.SI-ID 19061512]

NOVAK, Tone, JANŽEKovič, Franc, LIPOVŠEK DELAKORDA, Saška. Contribution of non-troglobiotic terrestrial invertebrates to carbon input in hypogean habitats = Prispevek prezimujočih netroglobiontskih kopenskih nevretenčarjev k vnosu ogljika v podzemeljske habitate. Acta carsologica, ISSN 0583-6050, 2013, letn. 42, št. 2/3, str. 301-309, tabele. <http://ojs.zrc-sazu.si/carsologica/article/view/669/600>, doi: 10.3986/ac.v42i2-3.669. [COBISS.SI-ID 20238600]

LIPOVŠEK DELAKORDA, Saška, JANŽEKovič, Franc, NOVAK, Tone. Autophagic activity in the midgut gland of the overwintering harvestmen *Gyas annulatus* (Phalangidae, Opiliones). Arthropod structure & development, ISSN 1467-8039, 2014, str. 1-8, ilustr., doi: 10.1016/j.asd.2014.06.001. [COBISS.SI-ID 20696584]

NOVAK, Tone, ŠAJNA, Nina, ANTOLINC, Estera, LIPOVŠEK DELAKORDA, Saška, DEVETAK, Dušan, JANŽEKovič, Franc. Cold tolerance in terrestrial invertebrates inhabiting subterranean habitats. International journal of speleology, ISSN 0392-6672, 2014, vol. 43, no. 3, str. r39-r46. <http://dx.doi.org/10.5038/1827-806X.43.3.3>, doi: 10.5038/1827-806X.43.3.3. [COBISS.SI-ID 20595208]

NOVAK, Tone, KOZEL, Peter. *Hadzinia ferrani*, sp. n. (Opiliones: Nemastomatidae), a highly specialized troglobiotic harvestman from Slovenia. Zootaxa, ISSN 1175-5326, 2014, vol. 3841, no. 1, str. 135-145, ilustr. <http://biotaxa.org/Zootaxa/article/view/zootaxa.3841.1.8>, doi: 10.11646/zootaxa.3841.1.8. [COBISS.SI-ID 37430317]