



Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Ekologija – diferencialni izpit
Course title:	Ecology – Differential Exam

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Diferencialni izpit za magistrski študijski program Biologija in ekologija z naravovarstvom, 2.stopnja		1.	1.
Differential Exam for the postgraduate study program, Biology and Ecology with Nature Conservation, 2 nd cycle		1st	1st

Vrsta predmeta / Course type

Obvezni / Compulsory

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
						5

Nosilec predmeta / Lecturer:

Nina Šajna

Jeziki /

Languages:

Predavanja /

Lectures:

slovenski / Slovene

Vaje / Tutorial:

slovenski / Slovene

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

Ni pogojev.

Prerequisites:

No prerequisites.

Vsebina:

Content (Syllabus outline):

• Uvod v ekologijo • Organizmi v okolju • Pogoji in viri • Življenjski cikli • Ekološke aplikacije na nivoju organizmov in ene vrste • Razširjanje, dormanca, metapopulacije • Sobivanje in odnosi med vrstami (kompeticija, plenilstvo, parazitizem, simbioze,...) • Abundanca • Ekološke aplikacije na nivoju populacij • Združbe in ekosistemi • Pretok energije, snovi skozi ekosistem • Prehranjevalne verige • Vzorci vrstne pestrosti	• Introduction to ecology • Organisms in their environments • Conditions and resources • Life histories • Ecological applications at the level of organisms and single-species populations • Dispersal, dormancy, metapopulations • Species coexistence and interactions (competition, predation, parasitism, symbiosis,...) • Abundance • Ecological applications at the level of population interactions • Communities and ecosystems • The flux of energy and matter through ecosystems • Food webs • Patterns in species richness
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Temeljni literatura in viri / Readings:

- Begon, M., Towsend C.R., Harper J.L., 2006: Ecology: From Individuals to Ecosystems. John Wiley & Sons.
- Tome, D., 2007: Ekologija. TZS.

Cilji in kompetence:

- Povezujejo koncepte o pogojih in virih za preživetje in sobivanje.
- Spoznajo ekološke raziskave na nivoju organizma, ene vrste (avteologija) in populacije ter jih interpretirajo.
- Primerjajo medvrstne odnose.
- Navedejo definicije združb in ekosistema.
- Definirajo zakonitosti pretoka energije in snovi skozi ekosistem.
- Pojasnijo koncept prehranjevalne verige.

Objectives and competences:

- They relate concepts about conditions and resources for survival and coexistence with species' adaptations in respect to environment.
- They get introduced and are able to interpret ecological investigations on different levels: individual, single species, or population.
- They compare different interspecific relationships.
- They quote the definitions of communities and ecosystems.
- They explain the rule of energy and matter flow through ecosystem.
- They explain the concept of food webs.

Predvideni študijski rezultati:

Intended learning outcomes:

Študenti so sposobni: • razložiti osnovne principe v ekologiji; • opredeliti osnovne abiotske in biotske dejavnike; • razložiti osnovna pravila, koncepte in teorije v ekologiji; • primerjati relacije med osebkom in okoljem; • opredeliti teorije populacijske ekologije; • pojasniti procese in dejavnike sobivanja osebkov in vrst.	Students are able to: • explain the basic ecological principles; • define abiotic and biotic environmental factors; • explain the basic ecological laws, concepts and theories; • compare the relations between the individual and its environment; • define population ecology theory; • explain processes and factors enabling coexistence of individuals and species.
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Metode poučevanja in učenja:

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Learning and teaching methods:

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Načini ocenjevanja:

Delež (v %) /

Weight (in %)

Assessment:

Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
Pisni in ustni izpit	100%	Written and oral exam

Reference nosilca / Lecturer's references:

• ŠAJNA, Nina. (2019) First record of non-native Asian seed beetle, <i>Megabruchidius dorsalis</i> (Fåhræus, 1839) and its parasitoid, in Slovenia. <i>BiolInvasions Records</i>, vol. 8. • ŠAJNA, Nina. (2017) Habitat preference within its native range and allelopathy of garlic mustard <i>Alliaria petiolata</i>. <i>Polish journal of ecology</i>, 65, str. 46-56. • KARLO, Tamara, ŠAJNA, Nina. (2017) Biodiversity related understorey stability of small peri-urban forest after a 100-year recurrent flood. <i>Landscape and Urban Planning</i>, vol. 162, str. 104-114. • Nina ŠAJNA, Mirjana ŠIPEK, Jelka ŠUŠTAR – VOZLIČ, Mitja KALIGARIČ. (2019) Germination behavior of the extremely rare <i>Hladnikia pastinacifolia</i> Rchb. (Apiaceae) – a Pleistocene in situ survivor. <i>Acta Botanica Croatica</i>, vol. 78, iss. 2.
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