



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Ekologija
Course title:	Ecology

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Enovit magistrski študijski program druge stopnje Predmetni učitelj	/	4	7
Five-year master's degree program Subject teacher	/		

Vrsta predmeta / Course type:

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
30			15	15	120	6

Nosilec predmeta / Lecturer:

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

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

Vsebina: Content (Syllabus outline):

- Uvod v ekologijo
- Organizmi v okolju
- Pogoji
- Viri
- Življenjski cikli
- Znotrajvrstna kompeticija
- Razširjanje, dormanca, metapopulacije
- Ekološke aplikacije na nivoju organizmov in ene vrste
- Odnosi med vrstami (kompeticija, plenilstvo, parazitizem, simbioze,...)
- Abundanca
- Ekološke aplikacije na nivoju populacij
- Združbe in ekosistemi
- Pretok energije, snovi skozi ekosistem
- Prehranjevalna veriga
- Vzorci vrstne pestrosti
- Ekološke aplikacije na nivoju združbe in ekosistema

- Introduction to ecology
- Organisms in their environments
- Conditions
- Resources
- Life histories
- Intraspecific competition
- Dispersal, dormancy, metapopulations
- Ecological applications at the level of organisms and single-species populations
- Species 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
- Ecological applications at the level of communities and ecosystems

Temeljni literatura in viri / Readings:

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

Dodatna literatura/ Additional literature:

- Cain, M.L., Bownam, W.D., Hacker, S.D.:2013: Ecology. Sinauer.

Cilji in kompetence:

- Podati definicije v ekologiji
- Podati pregled osnovnih ekoloških zakonitosti, konceptov in teorij
- Prikazati nekatere osnovne metode ekološkega vzorčenja
- Podati pregled abiotičkih in biotskih ekoloških dejavnikov
- Pregled osnovnih relacij med osebkom in okoljem
- Podati osnove populacijske ekologije rastlin
- Spodbujati zanimanje za ekološke raziskave in usposabljanje za načrtovanje takšnih raziskav
- Podati pregled biotomov Zemlje, Evrope in Slovenije

Objectives and competences:

- To give definitions in ecology
- To give an overview of the basic ecological laws, concepts and theories
- To present selected sampling methods in ecology
- To give an overview of abiotic and biotic environmental factors
- To give an overview of the basic relations between the individual and its environment
- To introduce principles of population ecology
- To increase the interest for ecological investigations and training of planning such investigations
- To give an overview on biomes of the Earth, Europe and Slovenia

Predvideni študijski rezultati:

Intended learning outcomes:

<ul style="list-style-type: none"> • Poznavanje in razumevanje temeljnih ekoloških zakonitosti • Poznavanje glavnih abiotskih in biotskih dejavnikov • Razumevanje ekoloških procesov znotraj populacije, med populacijami, med vrstami, v združbah,... • Razumevanje lastnosti in procesov v ekosistemih • Prepoznavanje in razumevanje ekoloških razmer v konkretnem okolju Pregled biomov ter vegetacije Zemlje, Evrope in Slovenije 	<ul style="list-style-type: none"> • Knowledge about and understanding of basic ecological principles • Knowledge about common abiotic and biotic factors • Understanding of the ecological processes within population, among populations, among species and communities • Understanding of ecosystem properties and processes • Recognizing and understanding of the ecological conditions within a specific environment • An overview over the biomes and vegetation of the Earth, Europe and Slovenia
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Metode poučevanja in učenja:

<ul style="list-style-type: none"> • Predavanja • Terenske vaje • Laboratorijske vaje • Individualno delo

Learning and teaching methods:

<ul style="list-style-type: none"> • Lectures • Field work • Laboratory work • Individual work
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Delež (v %) /

Weight (in %)

Načini ocenjevanja:

Assessment:

Način (pisni izpit, ustno izpraševanje, naloge, projekt):	Delež (v %) / Weight (in %)	Type (examination, oral, coursework, project):
<ul style="list-style-type: none"> • Pisni izpit iz vaj • Končni pisni izpit 	<p>10%</p> <p>90%</p>	<ul style="list-style-type: none"> • Written exam of practical class • Final written exam

Reference nosilca / Lecturer's references:

<ul style="list-style-type: none"> • ŠAJNA, Nina. First record of non-native Asian seed beetle, <i>Megabruchidius dorsalis</i> (Fåhræus, 1839) and its parasitoid, in Slovenia. <i>BioInvasions Records</i>. 2019, vol. 8, issue 3, str. 515-520. • ŠAJNA, Nina, ŠIPEK, Mirjana, ŠUŠTAR VOZLIČ, Jelka, KALIGARIČ, Mitja. Germination behavior of the extremely rare <i>Hladnikia pastinacifolia</i> Rchb. (Apiaceae) - a Pleistocene in situ survivor. <i>Acta botanica Croatica : an international journal of botany</i>. 2019, vol. 78, no. 2, str. 107-115. • ŠIPEK, Mirjana, ŠAJNA, Nina. Germination characteristics of old seeds help explain coexistence of selected dry grassland species. <i>Ecologia mediterranea</i>. 2019, vol. 45, 2, str. 99-112. • KARLO, Tamara, ŠAJNA, Nina. Biodiversity related understorey stability of small peri-urban forest after a 100-year recurrent flood. <i>Landscape and urban planning</i>. [Print ed.]. 2017, vol. 162, str. 104-114. • ŠAJNA, Nina. Habitat preference within its native range and allelopathy of garlic mustard <i>Alliaria petiolata</i>. <i>Polish journal of ecology</i>. 2017, vol. 65, iss. 1, str. 46-56.
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