Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Izbrana poglavja iz ekologije**
Course title:	**Selected topics in ecology**

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.- 4.; 1st-4th**
Doctoral Study Ecological Sciences, 3rd degree			

Vrsta predmeta / Course type	Izbirni/Elective
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
15	**3**		**6**	**6**	**150**	**6**

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:	**Prerequisits:**
Za študente brez biološkega/ekološkega predznanja	For students without biological/ecological background

Vsebina:	**Content (Syllabus outline):**
• Spoznavanje izbranih ekoloških konceptov • Organizmi v okolju (pogoji in viri) • Pregled zakonitosti populacijske ekologije • Ekološke aplikacije na nivoju organizma, vrste in populacije • Odnosi med vrstami (kompeticija, plenilstvo, parazitizem, simbioze,…)	• Familiarizing with selected ecological concepts • Organisms in their environments (conditions and resources) • Review of principles in population ecology • Ecological applications at the level of organism, species and population • Species interactions (competition,

• Združbe in ekosistemi	predation, parasitism, symbiosis,…) • Communities and ecosystem

Temeljni literatura in viri / Readings:

- Begon, M., Towsend C.R., Harper J.L., 2006: Ecology: From Individuals to Ecosystems. John Wiley & Sons.
  Dodatno/Additionally:
- Cain M.L., Bowman W.D., Hacker S.D., 2014: Ecology. Sinauer Associates.

Cilji in kompetence:	**Objectives and competences:**
• Poznavanje osnovnih abiotskih in biotskih dejavnikov • Podati pregled osnovnih pravil, konceptov in teorij v ekologiji • Pregled osnovnih relacij med organizmi in okoljem • Podati osnove populacijske ekologije	• To give an overview of abiotic and biotic environmental factors • To give an overview of the basic ecological laws, concepts and theories • To give an overview of the basic relations between the individual and its environment • To introduce principles of population ecology

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: - Študentje poznajo in razumejo temeljne ekološke zakonitosti. - Poznajo glavne dejavnike v okolju. - Razumejo koncept o pogojih in virih za preživetje in sobivanje ter poznajo s tem povezane prilagoditve osebkov in medvrstne odnose. - Spoznajo ekološke raziskave na nivoju organizma, na nivoju ene vrste (avtekologija), na nivojih populacije, združbe in ekosistema.	**Knowledge and understanding:** - Students are familiar with and understand basic rules in ecology. - They are familiar with main factors in environment. - They understand the concept about conditions and resources for survival and coexistence; they are familiar with species' adaptations and interspecific relationships. - Introduction into ecological investigations of individuals, single species, populations, communities and ecosystems studies.
Prenesljive/ključne spretnosti in drugi atributi: - Na primerih ekoloških raziskav razumejo proces znanstvene metode - Poznajo izbrane metode vzorčenja in znajo opraviti meritve okoljskih dejavnikov - prepoznajo in razumejo ekološke razmere v konkretnem okolju - znajo zastaviti bazično ekološko	**Transferable/Key Skills and other attributes:** - Students gain understanding of the process of scientific research through solving ecological case studies involving sampling, measurements of environmental factors,.. - Student know how to evaluate ecological conditions in a given environment - Skills how to plan a basic ecological

raziskavo na nivoju vrste, populacije, združbe.	study on the level of species, population or community investigation.

Metode poučevanja in učenja:	**Learning and teaching methods:**
• Predavanja • Seminar • Terenske vaje • Laboratorijske vaje	• Lectures • Seminar • Field work • Laboratory work

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
• Seminar work • Laboratorijsko/Terensko delo (prisotnost, dnevnik, pisni test) pogoj za pristop k izpitu • Pisni končni izpit	20% 80%	• Seminar work • Lab/Field work (attendance, reports, written exam) mandatory for final exam • Written final exam

Reference nosilca / Lecturer's references:

- ŠAJNA, Nina, KALIGARIČ, Mitja, IVAJNŠIČ, Danijel (2014) Reproduction biology of an alien invasive plant : a case of drought-tolerant *Aster squamatus* on the Northern Adriatic seacoast, Slovenia. V: RANNOW, Swen (ur.), NEUBERT, Marco (ur.). *Managing protected areas in Central and Eastern Europe under climate change*, (Advances in global change research, vol. 58). Dordrecht [etc.]: Springer, 279-288.
- ŠAJNA, Nina, ŠUŠTAR VOZLIČ, Jelka, KALIGARIČ, Mitja (2014) New insights into the anatomy of an endemic Hladnikia pastinacifolia Rchb. *Acta botanica Croatica*, 73, 375-384.
- ŠAJNA, Nina, MEISTER, Margit H., BOLHÁR-NORDENKAMPF, Harald R., KALIGARIČ, Mitja (2013) Response of semi-natural wet meadow to natural geogenic CO2 enrichment. *International journal of agriculture and biology*, 15, 657-664.