Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Ekološki procesi**
Course title:	**Ecological Processes**

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
10	**10**		**5**	**5**	**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 s predznanjem ekologije	For students with ecological background

Vsebina:	**Content (Syllabus outline):**
• Dinamika in funkcija ekosistemov v prostoru in času • Ekološke sukcesije in invazije • Pregled pristopov, konceptov, modelov o stabilnosti, prožnosti in trajnostnosti ekosistemov • Persistenca in razširjenost rastlin in živali • Mehanizmi sobivanja (koeksistence),	• Dynamics and functions of ecological systems at multiple spatial and temporal scales • Ecological successions and invasions • Overview of approaches, concepts and models of ecosystem stability, resilience and sustainability • Persistence and distribution of plants and animals

alelopatije, facilitacije • Učinek globalnih sprememb na ekološke procese	• Mechanisms of coexistence, allelopathy, facilitation • Global Change impact on ecological processes

Temeljni literatura in viri / Readings:

- Wilkinson, D. 2006. Fundamental processes in ecology: an earth systems approach. – Oxford Univ. Press.
- Kelly, C.K., Bowler, M.G., and Fox, G.A. (eds.) 2013. Temporal dynamics and ecological process. Cambridge University Press

Dodatno/Additionally selected chapters in:

- L. Palmeri, A. Barausse, S.E. Jørgensen 2014. Ecological Processes Handbook. CRC Press, Boca Raton.

Cilji in kompetence:	**Objectives and competences:**
• Poznavanje dinamike in funkcij ekosistemov v različnih prostorskih merilih (lokalno-globalno) in v različnih časovnih okvirih (sukcesije) • Spoznati pomen stabilnosti, prožnosti in trajnostnosti ekosistemov na primerih npr. bioloških invazij • Spoznati dejavnike za persistenco in razširjenost rastlin in živali na primerih • Pregled mehanizmov sobivanja • Diskutirati učinek globalnih sprememb na ekološke procese	• To give an overview of ecosystem dynamics and functions in various space (local-global) and time frames (e.g. succession) • Acknowledge the meaning of ecosystem stability, resilience and sustainability biological invasions • Case studies to familiarize with factors defining persistence and distribution of plants and animals • To give an overview of coexsistence mechanisms • Discussing the effect of global change on ecological processes

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: - Seznanijo se ekološkimi procesi (npr. sukcesije, biološke invazije) in funkcijami - Razumejo, da se ekološki procesi v prostoru in času spreminjajo - Na primerih spoznajo koncepte: stabilno sobivanje, časovna dinamika niše, dinamika kompetitivnega izključevanja in druge - Seznanijo se, kako globalne sprembe interferirajo z ekološkimi procesi	**Knowledge and understanding:** - Students are familiar with ecological processes (e.g. succession, biological invasions) and functions - Student understand that ecological processes exhibit spatial and temporal variation - They familiarize with concepts stable coexsistence, temporal niche dynamics, dynamics of competitive exclusion etc. with case studies - Students are familiar how global change interferes with ecological processes
Prenesljive/ključne spretnosti in drugi	**Transferable/Key Skills and other attributes:**

atributi: - Ability to discuss current topics about global change impact on ecological processes	- Student know how to evaluate ecological processes in a given environment - Skills how to plan ecological processes monitoring studies in space and time - - Students gain understanding of the process of scientific research through solving ecological case studies involving sampling, measurements of environmental factors,.. - Skills how to plan a basic ecological

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	50% 50%	• Seminar work • Lab/Field work (attendance, reports, written exam) mandatory for final exam • Written final exam

Reference nosilca / Lecturer's references:

- KARLO, Tamara, ŠAJNA, Nina (2017) Biodiversity related understorey stability of small peri-urban forest after a 100-year recurrent flood. *Landscape and urban planning*, 162, str. 104-114.
- ŠAJNA, Nina (2016) Alien plant species invading rare and protected habitats in Slovenia. V: TRAVLOS, Ilias S. (ur.). *Weed and pest control : molecular biology, practices and environmental impact*, (Plant science research and practices). New York: Nova Publishers, 35-54.
- ŠAJNA, Nina, KUŠAR, Primož (2014) Modeling species fitness in competitive environments. *Ecological modelling*, 275, 31-36.