Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Ekologija rastlin**
Course title:	**Plant Ecology**

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Univerzitetni študijski program Ekologija z naravovarstvom, 1. stopnja		**2**	**4**
Undergraduate university programme Ecology with Nature Conservation, 1st degree		**2**	**4**

Vrsta predmeta / Course type Obvezni/Compulsory

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
45			**15**	**15**	**105**	**6**

Nosilec predmeta / Lecturer: Mitja KALIGARIČ

Jeziki / Languages:		
	Predavanja / Lectures:	**Slovenski / slovene**
	Vaje / Tutorial:	**Slovenski / slovene**

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Vsaka izmed naštetih obveznosti v načinih ocenjevanja mora biti opravljena s pozitivno oceno. Redna prisotnost na terenskih vajah so pogoj za pristop k pisnemu izpitu.	Each of the mentioned commitments must be assessed with a passing grade. Regular attendance at fieldwork is a prerequisite for taking the written exam.

Vsebina:

- Definicije v ekologiji rastlin.
- Svetloba in fotosinteza.
- Vodna bilanca rastlin.
- Talne razmere, prehrana rastlin in interakcije v tleh.
- Temperaturne razmere.
- Populacijska ekologija rastlin (struktura in rast populacij, življenjski cikli, demografija rastlin).
- Združbe in lastnosti združb: kompeticija, disturbanca, stres, sukcesije.
- Ekosistemski procesi.

Content (Syllabus outline):

- Definitions in plant ecology.
- Light and photosinthesis.
- Water relations in plants.
- Soil conditins, plant nutrition and bellow-ground interactions.
- Temperature conditions.
- Population ecology of plants (structure and growth of populations, life histories, plant demography).
- Communities and community properties: competition, disturbance, stress, successions.
- Ecosystem processes.

Temeljni literatura in viri / Readings:

- Sitte, P. (2002). *Lehrbuch der Botanik: für Hochschulen: begründet von E. Strasburger ... [et al.]* (35. Aufl., str. XIV, 1123). Spektrum Akademischer Verlag.
- Tome, D. (2006). *Ekologija: organizmi v prostoru in času* (1. natis, str. 344). Tehniška založba Slovenije.

Priporočena literatura / Recommended

Gurevitch, J., Scheiner, S. M., & Fox, G. A. (2006). *The ecology of plants* (2nd ed., str. XVII, 574). Sinauer Associates.

- Keddy, P. A. (2007). *Plants and vegetation: origins, processes, consequences* (str. XXI, 683). Cambridge University Press.

Cilji in kompetence:

- Podati definicije v ekologiji rastlin.
- Pregled osnovnih relacij med osebkom in okoljem.
- Podati osnove populacijske ekologije rastlin.
- Pregled osnovnih relacij med populacijami in združbami ter prostorsko in časovno dinamiko združb.
- Pregled osnovnih relacij med ekosistemi in krajino.

Objectives and competences:

- To give definitions in plant ecology.
- To give a review of the basic relations between the individual and its environment.
- To introduce principles of plant population ecology.
- To give a review of the basic relations between populations and communities, as well as to introduce spatial and temporal dynamics of communities.
- To give a review of the basic relations between ecosystems and landscapes.

Predvideni študijski rezultati:

Znanje in razumevanje:

- Poznavanje in razumevanje temeljnih zakonitosti v ekologiji rastlin.

Intended learning outcomes:

Knowledge and understanding:

- Knowledge and understanding of basic principles in plant ecology.

• Poznavanje glavnih okoljskih dejavnikov, ki pogojujejo razvoj osebka, populacije in združbe. • Razumevanje lastnosti in procesov v ekosistemih. Prenesljive/ključne spretnosti in drugi atributi: • Sposobnost razumevanja ključnih segmentov ekologije rastlin. • Sposobnost izmeriti in razumeti okoljske dejavnike, ki vplivajo na osebek, populacijo in združbo.	• Knowledge about common environmental factors, which affect the developement of individuals, populations and communities. • Understanding of ecosystem properties and processes. Transferable/Key Skills and other attributes: • Ability to understand the key issues in plant ecology. • Capability to measure and understand the environemntal factors affecting individuals, populations and communities.

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

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
• Laboratorijsko delo • Pisni izpit	**25** **75**	• Laboratory work • Written exam

Reference nosilca / Lecturer's references:

IVAJNŠIČ, Danijel, DENAC, Damijan, DENAC, Katarina, PIPENBAHER, Nataša, KALIGARIČ, Mitja. The Scops owl (Otus scops) under human-induced environmental change pressure. *Land use policy*. [Print ed.]. Dec. 2020, vol. 99, str. 1-8, ilustr. ISSN 0264-8377. DOI: 10.1016/j.landusepol.2020.104853. [COBISS.SI-ID 21112579].

ŽIBERNA, Igor, PIPENBAHER, Nataša, DONŠA, Daša, ŠKORNIK, Sonja, KALIGARIČ, Mitja, KAJFEŽ-BOGATAJ, Lučka, ČREPINŠEK, Zalika, GRUJIĆ, Jaša Veno, IVAJNŠIČ, Danijel. The impact of climate change on urban thermal environment dynamics. *Atmosphere*. 2021, vol. 12, iss. 9, str. 1-15, ilustr. ISSN 2073-4433. https://www.mdpi.com/journal/atmosphere/special_issues/hazards_urbanization_climate, Repozitorij Univerze v Ljubljani – RUL, Digitalna knjižnica Univerze v Mariboru – DKUM, DOI: 10.3390/atmos12091159. [COBISS.SI-ID 75887619].

IVAJNŠIČ, Danijel, PIPENBAHER, Nataša, GRUJIĆ, Jaša Veno, DONŠA, Daša, KALIGARIČ, Mitja, ŠKORNIK, Sonja, ŽIBERNA, Igor, ČUŠ, Jure, RECKO NOVAK, Petra, KOHEK, Štefan, BRUMEN, Matej,

STRNAD, Damjan. A decision support system for effective implementation of agro-environmental measures targeted at small woody landscape features : the case study of Slovenia. *Landscape and urban planning*. [Print ed.]. 2024, vol. 247, [article no.] 105064, 13 str., ilustr. ISSN 0169-2046. https://www.sciencedirect.com/science/article/pii/S016920462400063X?via%3Dihub, DOI: 10.1016/j.landurbplan.2024.105064. [COBISS.SI-ID 190421251].