



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 BIOLOGIJA, 1. stopnja		2	4
Undergraduate university programme BIOLOGY, 1 st degree		2	4

Vrsta predmeta / Course type

Obvezni/Obligatory

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:

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.

Prerequisites:

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:

Content (Syllabus outline):

• 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.	• Definitions in plant ecology. • Light and photosynthesis. • Water relations in plants. • Soil conditions, plant nutrition and below-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.
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Temeljni literatura in viri / Readings:

• Sitte, P. (2002). <i>Lehrbuch der Botanik: für Hochschulen: begründet von E. Strasburger ... [et al.]</i> (35. Aufl., str. XIV, 1123). Spektrum Akademischer Verlag. • Tome, D. (2006). <i>Ekologija: organizmi v prostoru in času</i> (1. natis, str. 344). Tehniška založba Slovenije. Priporočena literatura / Recommended Gurevitch, J., Scheiner, S. M., & Fox, G. A. (2006). <i>The ecology of plants</i> (2nd ed., str. XVII, 574). Sinauer Associates. • Keddy, P. A. (2007). <i>Plants and vegetation: origins, processes, consequences</i> (str. XXI, 683). Cambridge University Press.
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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.
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Predvideni študijski rezultati:

Znanje in razumevanje: • Poznavanje temeljnih zakonitosti v ekologiji rastlin.

Intended learning outcomes:

Knowledge and understanding: • Knowledge of basic principles in plant ecology.

• Poznavanje glavnih okoljskih dejavnikov, ki pogojujejo razvoj osebkov, populacije in združbe. • Poznavanje 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 development of individuals, populations and communities. Knowledge 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 environmental factors affecting individuals, populations and communities.
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Metode poučevanja in učenja:

• Predavanja • Laboratorijske vaje • Terenske vaje
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Learning and teaching methods:

• Lectures • Laboratory exercises • Field exercise
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Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

• Laboratorijsko delo • Pisni izpit	25 75	• Laboratory work • Written exam
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Reference nosilca / Lecturer's references:

IVAJSIČ, Danijel, DENAC, Damijan, DENAC, Katarina, PIPENBAHER, Nataša, KALIGARIČ, Mitja. The Scops owl (<i>Otus scops</i>) under human-induced environmental change pressure. <i>Land use policy</i>. [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, IVAJSIČ, Danijel. The impact of climate change on urban thermal environment dynamics. <i>Atmosphere</i>. 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]. VAJSIČ, Danijel, PIPENBAHER, Nataša, GRUJIĆ, Jaša Veno, DONŠA, Daša, KALIGARIČ, Mitja, ŠKORNIK, Sonja, ŽIBERNA, Igor, ČUŠ, Jure, RECKO NOVAK, Petra, KOHEK, Štefan, BRUMEN, Matej,		
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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](https://doi.org/10.1016/j.landurbplan.2024.105064). [COBISS.SI-ID [190421251](https://cobiss.si/id/190421251)].