



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

<b>Predmet:</b>	<b>Ekologija rastlin</b>
<b>Course title:</b>	<b>Plant Ecology</b>

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 <sup>st</sup> degree		2	4

Vrsta predmeta / Course type

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:

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

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

Jih ni.

No.

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.

### Temeljni literatura in viri / Readings:

- Bresinsky, A., Körner, C., Kadereit, J.W., Neuhaus, G., Sonnewald, U., 2013: Strasburger's Plant Sciences. Springer Verlag.
- Kedy, P.A., 2017: Plant Ecology: origins, processes, consequences. 2nd ed., Cambridge University Press.
- Gurevitch, J., Scheiner S., Fox G: 2006: Plant ecology. Second Edition. Sinauer Associates Inc. Publishers, Sunderland, Massachusetts, USA.
- Tome, D., 2007: Ekologija. TZS.

### 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 temeljnih zakonitosti v ekologiji rastlin.
  - Poznavanje glavnih okoljskih dejavnikov, ki pogojujejo razvoj osebka, populacije in združbe.
  - Poznavanje lastnosti in procesov v

### Intended learning outcomes:

- Knowledge and understanding:
- Knowledge of basic principles in plant ecology.
  - Knowledge about common environmental factors, which affect the development of individuals, populations and communities.

<p>ekosistemih.</p> <p>Prenesljive/ključne spretnosti in drugi atributi:</p> <ul style="list-style-type: none"> <li>• Sposobnost razumevanja ključnih segmentov ekologije rastlin.</li> <li>• Sposobnost izmeriti in razumeti okoljske dejavnike, ki vplivajo na osebek, populacijo in združbo.</li> </ul>	<p>Knowledge of ecosystem properties and processes.</p> <p>Transferable/Key Skills and other attributes:</p> <ul style="list-style-type: none"> <li>• Ability to understand the key issues in plant ecology.</li> <li>• Capability to measure and understand the environmental factors affecting individuals, populations and communities.</li> </ul>
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**Metode poučevanja in učenja:**

<ul style="list-style-type: none"> <li>• Predavanja</li> <li>• Laboratorijske vaje</li> <li>• Terenske vaje</li> </ul>
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**Learning and teaching methods:**

<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Laboratory exercises</li> <li>• Field exercise</li> </ul>
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**Načini ocenjevanja:**

<ul style="list-style-type: none"> <li>• Praktični kolokvij iz vaj</li> <li>• Ustni kolokvij iz vaj</li> <li>• Pisni izpit</li> </ul>
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Delež (v %) /

Weight (in %)

**Assessment:**

<ul style="list-style-type: none"> <li>• Practical exam of laboratory exercises</li> <li>• Oral exam of laboratory exercises</li> <li>• Written exam</li> </ul>
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**Reference nosilca / Lecturer's references:**

IVAJSIČ, Danijel, KALIGARIČ, Mitja, FANTINATO, Edy, DEL VECCHIO, Silva, BUFFA, Gabriella. The fate of coastal habitats in the Venice Lagoon from the sea level rise perspective. Applied geography, ISSN 0143-6228. [Print ed.], 2018, vol. 98, str. 34-42, ilustr., doi: [10.1016/j.apgeog.2018.07.005](https://doi.org/10.1016/j.apgeog.2018.07.005). [COBISS.SI-ID [24006152](https://www.cobiss.si/id/24006152)]

ŠAJNA, Nina, ADAMLJE, Kristijan, KALIGARIČ, Mitja. Dittrichia graveolens - how does soil salinity determine distribution, morphology, and reproductive potential?. Annales : anali za istrske in mediteranske študije, Series historia naturalis, ISSN 1408-533X. [Tiskana izd.], 2017, letn. 27, št. 1, str. 7-12, ilustr., doi: [10.19233/ASHN.2017.02](https://doi.org/10.19233/ASHN.2017.02). [COBISS.SI-ID [23274760](https://www.cobiss.si/id/23274760)]

IVAJSIČ, Danijel, ŠAJNA, Nina, KALIGARIČ, Mitja. Primary succession on re-created coastal wetland leads to successful restoration of coastal halophyte vegetation. Landscape and urban planning, ISSN 0169-2046. [Print ed.], 2016, vol. 150, str. 79-86, ilustr., doi: [10.1016/j.landurbplan.2016.03.005](https://doi.org/10.1016/j.landurbplan.2016.03.005). [COBISS.SI-ID [22035464](https://www.cobiss.si/id/22035464)]

IVAJSIČ, Danijel, KALIGARIČ, Mitja. How to preserve coastal wetlands, threatened by climate change-driven rises in sea level. Environmental management, ISSN 0364-152X, 2014, vol. 54, iss. 4, str. 671-684, ilustr., doi: [10.1007/s00267-014-0244-8](https://doi.org/10.1007/s00267-014-0244-8). [COBISS.SI-ID [20339208](https://www.cobiss.si/id/20339208)]

COUSINS, Sara A. O., KALIGARIČ, Mitja, BAKAN, Branko, LINDBORG, Regina. Political systems affect mobile and sessile species diversity - a legacy from the post-WWII period. *PloS one*, ISSN 1932-6203, 2014, vol. 9, iss. 8, str. e103367-1-e103367-7.

<http://www.plosone.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0103367&representation=PDF>, doi: [10.1371/journal.pone.0103367](https://doi.org/10.1371/journal.pone.0103367). [COBISS.SI-ID 20770568]

PIPENBAHER, Nataša, KALIGARIČ, Mitja, MASON, Norman W. H., ŠKORNIK, Sonja. Dry calcareous grasslands from two neighboring biogeographic regions: relationship between plant  
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traits and rarity. *Biodiversity and conservation*, ISSN 0960-3115, 2013, vol. 22, iss. 10, str. 2207-2221, doi: [10.1007/s10531-013-0520-6](https://doi.org/10.1007/s10531-013-0520-6). [COBISS.SI-ID 19978504]