

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	IZBRANA POGLAVJA IZ EKOLOGIJE RASTLIN
Course title:	SELECTED TOPICS FROM PLANT ECOLOGY

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Okoljske in regionalne študije, doktorski študij 3. stopnje	Biodiverziteta in ekologija		
Environmental and Regional Studies, doctoral study 3rd level	Biodiversity and ecology		

Vrsta predmeta / Course type

Izbirni/ Elective

Univerzitetna koda predmeta / University course code:

DIB02

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
30		15		15	120	6

Nosilec predmeta / Lecturer:

Red. prof. dr. Andraž Čarni

Jeziki /

Predavanja / Lectures:

slovenščina, angleščina / Slovene, English

Languages:

Vaje / Tutorial:

slovenščina, angleščina / Slovene, English

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

Opraviljena prva stopnja študija biologije ali ekvivalentne smeri

Prerequisite:

Finished bachelor's in Biology or equivalent program of study

Vsebina:

- Abiotski in biotski dejavniki v okolju
- Odnosi med rastlinami in okoljem
- Ekološka niša in ekosistem
- Vzorčenje organizmov in rastlinskih združb in obdelava podatkov
- Prostorska obdelava podatkov
- Velike podatkovne baze
- Numerične metode
- Makroekologija
- Rastline kot del krajine

Content (Syllabus outline):

- Abiotic and biotic factors in environment
- Relations between plants and the environment
- Ecological niche and ecosystem
- Sampling of plants and plant communities and data processing
- Spatial data processing
- Formation of large databases
- Numerical methods
- Macro-ecology
- Plants as part of the landscape

Temeljni literatura in viri / Readings:

- Schultze E.D., Beck E., Müller-Hochenstein K. (2005). *Plant ecology*. Springer, Heidelberg.
- Tremp H. (2005). *Aufnahme und Analyse vegetationsökologische Daten*, Ulmer, Stuttgart.
- Izbrana primarna literatura

Cilji in kompetence:

Ekologija se ukvarja z odnosi med organizmi in okoljem. Namen predmeta je, da se študenti seznanijo z temeljnimi pojmi v ekologiji rastlin. Predmet se ukvarja s posameznimi rastlinami in njihovimi odnosi z drugimi rastlinami in okoljem, rastlinskimi združbami in njihovo prostorsko razporeditvijo. Obdelovali pa bomo tudi ekosisteme, ki obsegajo vse žive organizme in dele neživega okolja na določenem območju. Ukvarjali se bomo z rastlinami na vseh nivojih, od celice, samih rastlin, rastlinskih združb pa do biomov, ki so najširša skupnost organizmov. Rastline v ekosistemih pa niso statične, ampak so v neprestanem spreminjanju, tako se bomo seznanili s usmerjenimi spremembami (sukcesijami) in nihanji (fluktuacijami). Cilj predmeta je, da študenti razumejo odnose med rastlinami in rastlinskimi združbami in okoljem, ekosistemi in njihovim funkcioniranjem ter se seznanijo z vzorčenjem in obdelavo podatkov.

Objectives and competences:

Ecology studies interactions between organisms and their environment. The purpose of this course is to familiarize students with the basic concepts of plant ecology. The course deals with individual plants and their interactions with other plants and the environment, plant communities and their spatial distribution. We will also deal with ecosystems that include all living organisms and nonliving components in a given area. We will study plant ecology at all levels of organization, from cells, organisms, to plant communities and biomes, the broadest community of organisms. Because plants in ecosystems are not static but constantly change we will get familiar with directed changes (successions) and fluctuations. The aim of the course is for students to understand the relationship between plants and plant communities, and the environment, ecosystems and their functioning as well as get acquainted with the sampling and data processing.

Predvideni študijski rezultati:

- Poznavanje temeljnih pojmov iz ekologije (populacije, niše, habitati, ekosistemi, krajine, biomi).
- Razumevanje interakcij med rastlinami in okoljem, formiranje ekosistemov.
- Razumevanje ekosistemov in njihovega funkcioniranja (npr. prehranske verige) in dinamike (npr. sukcesije).
- Razumevanje razporeditve rastlin na planetu (od združbe do bioma).
- Poznavanje osnovnih metod vzorčenja in obdelave podatkov.

Intended learning outcomes:

- Understanding basic ecological concepts (population niches, habitats, ecosystems, landscapes, biomes).
- Understanding the interactions between plants and the environment, the formation of ecosystems.
- Understanding ecosystems and their functioning (e.g. food chains) and dynamics (e.g. successions).
- Understanding the distribution of plants on the planet (from the community to the biome).
- Knowledge of basic methods of sampling and data processing.

Metode poučevanja in učenja:

- Predavanja
- Seminarji

Learning and teaching methods:

- Lectures
- Seminars

- e-učenje

- e-learning

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
<ul style="list-style-type: none"> ● Izpit ● Seminaraska naloga 	80	<ul style="list-style-type: none"> ● Exam
	20	<ul style="list-style-type: none"> ● Written paper

Reference nosilca / Lecturer's references:

1. Mucina, L., Bültmann, H., Dierßen, K., Theurillat, J. P., Raus, T., Čarni, A., ... & Chytrý, M. (2016). Vegetation of Europe: hierarchical floristic classification system of vascular plant, bryophyte, lichen, and algal communities. *Applied Vegetation Science*, 19, 3-264.
2. Valjavec, M. B., Zorn, M., & Čarni, A. (2018). Bioindication of human-induced soil degradation in enclosed karst depressions (dolines) using Ellenberg indicator values (Classical Karst, Slovenia). *Science of the Total Environment*, 640, 117-126.
3. Bátori, Z., Vojtkó, A., Keppel, G., Tölgyesi, C., Čarni, A., Zorn, M., ... & Valjavec, M. B. (2020). Anthropogenic disturbances alter the conservation value of karst dolines. *Biodiversity and Conservation*, 29(2), 503-525.
4. Chytrý, M., Tichý, L., Hennekens, S. M., Knollová, I., Janssen, J. A., Rodwell, J. S., Čarni A.... & Hájek, M. (2020). EUNIS Habitat Classification: Expert system, characteristic species combinations and distribution maps of European habitats. *Applied Vegetation Science*, <https://doi.org/10.1111/avsc.12519>
5. Theurillat, JP, Willner, W., Fernández-González, F., Bültmann, H., Čarni, A., Gigante, D., Mucina, L., Weber, H. (2020). International Code of Phytosociological Nomenclature. 4th edition. *Applied Vegetation Science* <https://doi.org/10.1111/avsc.12491>.