



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Vegetacijska ekologija
Course title:	Vegetation Ecology

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Biologija in ekologija z naravovarstvom, 2. stopnja	/	1,2	2 ali 3
Biology and Ecology with Nature Conservation, 2 nd cycle	/	1st,2nd	2nd or 3th

Vrsta predmeta / Course type

Izbirni / Elective

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
15	15	15			135	6

Nosilec predmeta / Lecturer:

Sonja Škornik

Jeziki /

Predavanja / Lectures:

Slovenski / Slovenian

Languages:

Vaje / Tutorial:

Slovenski / Slovenian

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

Jih ni.

Prerequisites:

No prerequisites.

Vsebina:

Content (Syllabus outline):

- Razlage pojmov: vegetacijska ekologija, vegetacija, rastlinske združbe
- Abiotski in biotski okoljski dejavniki, ki vplivajo na razvoj vegetacije
- Vegetacijski vzorci v prostoru in času
- Vrstna in funkcionalna pestrost rastlinskih združb
- Metode vzorčenja in analize podatkov pri proučevanju vegetacije
- Vegetacija Slovenije
- Ogroženi tipi vegetacije v Sloveniji: varovanje in upravljanje z njimi

- Definitions of terms: vegetation ecology, vegetation, plant communities
- Abiotic and biotic environmental factors affecting vegetation:
 - Vegetation patterns in space and time
 - Species diversity and functional diversity of plant communities
- Methods of vegetation sampling and vegetation data analysis
- Vegetation of Slovenia
- Vegetation types at risk in Slovenia: conservation and management

Temeljni literatura in viri / Readings:

Temeljna literatura / Basic:

- Ellenberg, H., & Leuschner, C. (2010). Vegetation Mitteleuropas mit den Alpen: in ökologischer, dynamischer und historischer Sicht (Vol. 8104). Utb.
- Keddy, P.A., 2007: Plant and vegetation, Cambridge University Press.

Priporočena literatura / Recommended:

- Gurevitch, J., Scheiner, S. M., & Fox, G. A. (2006). Community properties and mechanisms. The The ecology of plants, 2nd edn. Sinauer, Sunderland, 215-216.
- der Maarel, E. 2005: Vegetation Ecology, Blackwell publishing.ecology of plants, 2nd edn. Sinauer, Sunderland, 215-216.
- ter Braak C. J. F. & Šmilauer P., 2002: CANOCO Reference Manual and CanoDraw for Windows User's Guide: Software for Canonical Community Ordination (version 4.5). Microcomputer Power, Ithaca NY, USA

Cilji in kompetence:

Študenti se seznanijo s

- osnovnimi pojmi v vegetacijski ekologiji
- osnovnimi zakonitostmi, koncepti in teorijami v vegetacijski ekologiji
- okoljskimi dejavniki, ki vplivajo na razvoj vegetacije
- načini ugotavljanja in razlikami med vrstno pestrostjo in funkcionalno pestrostjo rastlinskih združb

Objectives and competences:

Students get familiar with

- definitions of basic terms in vegetation ecology
- the basic laws, concepts and theories in vegetation ecology
- the environmental factors, that affect vegetation

- metodami vzorčenja in načini analize podatkov pri proučevanju vegetacije s poudarkom na modernih numeričnih metodah
- različnimi pristopi pri klasificiranju vegetacije na Zemlji
- osnovnimi tipi vegetacije Zemlje, Evrope in Slovenije
- najbolj ogroženimi tipi vegetacije v Slovenije, njihovim varovanjem in upravljanjem z njimi.

- methods for determination of species diversity and functional diversity of plant communities
- different methods for vegetation description and vegetation data analysis with main stress on modern numerical analysis
- different perspectives of vegetation classification
- main vegetation types of World, Europe and Slovenia
- vegetation types at risk in Slovenia, their conservation and management.

Predvideni študijski rezultati:

Znanje in razumevanje:
Študenti znajo

- predstaviti osnovne pojme, definicije in teorije v vegetacijski ekologiji
- naštetih in opisati osnovne okoljske dejavnike, ki vplivajo na razvoj vegetacije
- pojasniti razliko med vrstno pestrostjo in funkcionalno pestrostjo rastlinskih združb
- opisati metode za določanje obeh tipov pestrosti
- opisati in razločevati med različnimi metodami vzorčenja in analize podatkov pri proučevanju vegetacije s poudarkom na modernih numeričnih metodah
- izbrati in uporabiti ustrezne metode za analizo vegetacijskih podatkov
- opisati različne pristope pri klasificiranju vegetacije na Zemlji
- poimenovati osnovne tipe vegetacije na Zemlji, v Evropi in v Sloveniji ter jih povezati z okoljskimi faktorji
- naštetih najbolj ogrožene tipe vegetacije v Slovenije, opredeliti razloge za njihovo ogroženost, predstaviti načine njihovega varovanja in upravljanja z njimi.

Intended learning outcomes:

Knowledge and understanding:
Students are able to

- present basic concepts, definitions and theories in vegetation ecology
- enumerate and describe the basic environmental factors that affect vegetation development
- explain the difference between species and functional diversity of plant communities
- describe methods for determination of both types of diversity
- to describe and distinguish between different methods for vegetation sampling and data analysis with main stress on modern numerical analysis
- select and apply appropriate methods for the analysis of vegetation data
- describe different approaches of vegetation classification
- name the basic types of vegetation on Earth, in Europe and in Slovenia, and connect them with environmental factors- list the most endangered types of vegetation in Slovenia, identify the reasons for their threat, present the ways for their conservation and management.

Metode poučevanja in učenja:

<ul style="list-style-type: none"> - Predavanja - Seminar - Terensko delo
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Learning and teaching methods:

<ul style="list-style-type: none"> - Lectures - Seminar - Field work

Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
- Seminarska naloga in predstavitev	30%	- Seminar essay and its presentation
- Pisni izpit	70%	- Written exam

Reference nosilca / Lecturer's references:

BIURRUN, Idoia, PIELECH, Remigiusz, DEMBICZ, Iwona, GILLET, François, KOZUB, Łukasz, MARCENÒ, Corrado, REITALU, Triin, VAN MEERBEEK, Koenraad, GUARINO, Riccardo, CHYTRÝ, Milan, PIPENBAHER, Nataša, ŠKORNIK, Sonja, et al. Benchmarking plant diversity of Palaeartic grasslands and other open habitats. *Journal of vegetation science*. [Online ed.]. Jul./Aug. 2021, vol. 32, iss. 4, 21 str., ilustr. ISSN 1654-1103.

ŠKORNIK, Sonja, PAUŠIČ, Igor, NOVAK, Tone, JANŽEKOVIČ, Franc, IVAJNŠIČ, Danijel, TOSTOVRŠNIK, Mihaela, KOZEL, Peter. Environmental factors influencing the distribution of habitat types in the highlands of the Kamnik - Savinja Alps. *Plant Biosystems*. 2022, vol. 156, no. 3, str. 710-721.

ŠKORNIK, Sonja, PIPENBAHER, Nataša. Primerjava funkcionalnih potez dominantnih in podrejenih rastlinskih vrst v suhih traviščih asociacije Scabioso hladnikiana-Caricetum humilis v Sloveniji = Relationship in plant functional traits between dominant and subordinate plant species in dry grassland association Scabioso hladnikiana-Caricetum humilis in Slovenia. *Hladnikia*, ISSN 1318-2293. [Tiskana izd.], apr. 2018, [Št.] 41, str. 26-41.