



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

**Predmet:** *Izbrana poglavja iz vegetacijske ekologije*  
**Course title:** Selected Topics in Vegetation ecology

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Doktorski študij Ekološke znanosti, 3. stopnja		1. ali 2.; 1st or 2nd	1., 2. ali 3. ; 1st, 2nd or 3rd
Doctoral Study Ecological Sciences, 3rd degree			

**Vrsta predmeta / Course type**

Izbirni/Elective

**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
5				5	140	5

**Nosilec predmeta / Lecturer:**

Sonja ŠKORNIK

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

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

Poznavanje biologije, ekologije in taksonomije rastlin na ravni univerzitetnega programa

**Prerequisites:**

Knowledge of plant biology, ecology and taxonomy at graduate level

**Vsebina:**

Obravnavana so izbrana poglavja iz naslednjih sklopov.

- Vegetacijska ekologija kot del ekologije
- Okoljski dejavniki, ki vplivajo na razvoj vegetacije: temperatura, voda, pH, svetloba, nutrienti
- Vegetacijski vzorci v prostoru in času
- Vrstna in funkcionalna pestrost rastlinskih združb

**Content (Syllabus outline):**

Selected topics in the following chapters are discussed.

- Vegetation ecology as a part of ecology
- Environmental factors affecting vegetation: temperature, water, pH, light, nutrients
- Vegetation patterns in space and time
- Species diversity and functional diversity of plant communities

- Metode vzorčenja in analize podatkov pri proučevanju vegetacije
- Vegetacija Slovenije
- Ogroženi tipi vegetacije v Sloveniji: varovanje in upravljanje z njimi

- 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:**

- Ellenberg, H., 1996: Vegetation Mitteleuropas mit den Alpen.
- Gurevitch, J., S. Scheiner, G. Fox, 2002: Plant ecology. Sinauer Associates Inc. Publishers, Sunderland, Massachusetts, USA.
- der Maarel, E. 2005: Vegetation Ecology, Blackwell publishing.
- Keddy, P.A., 2007: Plant and vegetation, Cambridge University Press.

#### **Cilji in kompetence:**

- Razložiti osnovne pojme v vegetacijski ekologiji
- Pregled osnovnih zakonitosti, konceptov in teorij v vegetacijski ekologiji
- Podati pregled okoljskih dejavnikov, ki vplivajo na razvoj vegetacije
- Predstaviti načine ugotavljanja in razlike med vrstno pestrostjo in funkcionalno pestrostjo rastlinskih združb
- Predstaviti metode vzorčenja in načine analize podatkov pri proučevanju vegetacije s poudarkom na modernih numeričnih metodah
- Podati pregled nad vegetacijo Evrope in Slovenije
- Predstaviti najbolj ogrožene tipe vegetacije v Slovenije, njihovo varovanje in upravljanje z njimi

#### **Objectives and competences:**

- To give definitions of basic terms in vegetation ecology
- To give a review of the basic laws, concepts and theories in vegetation ecology
- To give a review of the environmental factors, that affect vegetation
- To present methods for determination of species diversity and functional diversity of plant communities
- To present different methods for vegetation description and vegetation data analysis with main stress on modern numerical analysis
- To present vegetation of Europe and Slovenia
- To present vegetation types at risk in Slovenia, their conservation and management

**Predvideni študijski rezultati:****Znanje in razumevanje:**

- Poznavanje osnovnih pojmov, definicij in teorij v vegetacijski ekologiji
- Poznavanje osnovnih okoljskih dejavnikov, ki vplivajo na razvoj vegetacije
- Razlikovanje med vrstno pestrostjo in funkcionalno pestrostjo rastlinskih združb ter poznavanje metod za določanje obeh tipov pestrosti
- Poznavanje metode vzorčenja in načine analize podatkov pri proučevanju vegetacije s poudarkom na modernih numeričnih metodah
- Imeti pregled nad tipi vegetacije v Evropi in v Sloveniji in jih znati povezati z okoljskimi faktorji
- Poznati najbolj ogrožene tipe vegetacije v Slovenije, razloge za njihovo ogroženost, načine njihovega varovanja in upravljanja z njimi

**Prenesljive/ključne spretnosti in drugi atributi:**

- Sposobnost podrobnega razumevanja ključnih segmentov vegetacijske ekologije
- Sposobnost natančno izmeriti in podrobno razumeti okoljske dejavnike, ki vplivajo na vegetacijo
- Sposobnost podrobno prepoznati vegetacijske tipe v Sloveniji in Evropi na različnih hierarhičnih nivojih

**Metode poučevanja in učenja:**

- Predavanja
- Seminarji
- Terenske vaje

**Intended learning outcomes:****Knowledge and understanding:**

- Knowledge and understanding of terminology, definitions and theories in vegetation ecology
- Knowledge of basic environmental factors that affect vegetation
- Distinguishing between species and functional diversity of plant communities and knowledge of methods for determination of both types of diversity
- Knowledge of methodology for vegetation sampling and analysis of vegetation data with main stress on modern numerical analysis
- An overview over present vegetation of the Europe and Slovenia
- Knowledge about the vegetation types at risk in Slovenia, their conservation and management

**Transferable/Key Skills and other attributes:**

- Ability to understand in detail the key issues in vegetation ecology
- Capability of exact measuring and understanding in detail the environmental factors affecting the vegetation
- Capability to recognize in detail vegetation types in Slovenia in Europe at different hierarchical levels

**Learning and teaching methods:**

- Lectures
- Seminars
- Field work

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
<ul style="list-style-type: none"> <li>• Seminarska naloga in predstavitev</li> <li>• Pisni izpit</li> </ul>	40% 60%	<ul style="list-style-type: none"> <li>• Seminar essay and its presentation</li> <li>• Written examination</li> </ul>

**Reference nosilca / Lecturer's references:**

PIPENBAHER, Nataša, KALIGARIČ, Mitja, MASON, Norman W. H., ŠKORNIK, Sonja. Dry calcareous grasslands from two neighboring biogeographic regions: relationship between plant 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](#)]

IGNJATOVIĆ, Maša, KALIGARIČ, Mitja, ŠKORNIK, Sonja, IVAJNŠIČ, Danijel. Spatio-temporal patterns along a primary succession on alluvial sediments. *Central European journal of biology*, ISSN 1895-104X, 2013, vol. 8, iss. 9, str. 888-897, doi: [10.2478/s11535-013-0205-x](https://doi.org/10.2478/s11535-013-0205-x). [COBISS.SI-ID [19959304](#)]

PIPENBAHER, Nataša, ŠKORNIK, Sonja, CARVALHO, Gustavo Henrique de, BATALHA, Marco Antônio. Phylogenetic and functional relationships in pastures and meadows from the North Adriatic Karst. *Plant ecology*, ISSN 1385-0237, 2013, vol. 214, iss. 4, str. 501-519, doi: [10.1007/s11258-013-0185-y](https://doi.org/10.1007/s11258-013-0185-y). [COBISS.SI-ID [19716616](#)]

ŠKORNIK, Sonja, HARTMAN, Klavdija, KALIGARIČ, Mitja. Relation between CSR functional signatures of dry grasslands from two contrasting geological substrates = Relazione tra sigle funzionali CSR di pascoli aridi su due substrati geologici contrastanti. *Ann, Ser. hist. nat.*, 2010, vol. 20, št. 2, str. 101-112.

ŠKORNIK, Sonja, VIDRIH, Matej, KALIGARIČ, Mitja. The effect of grazing pressure on species richness, composition and productivity in North Adriatic Karst pastures. *Plant Biosyst. (Firenze, Testo stamp.)*, 2010, vol. 144, no. 2, str. 355-364.

ŠKORNIK, Sonja, ŠAJNA, Nina, KRAMBERGER, Branko, KALIGARIČ, Simona, KALIGARIČ, Mitja. Last remnants of riparian wooded meadows along the middle Drava River (Slovenia) : species composition is a response to light conditions and management. *Folia geobot.*, dec. 2008, vol. 43, no. 4, str. 431-445.

PETRAS SACKL, Tina, KALIGARIČ, Mitja, IVAJNŠIČ, Danijel, ŠKORNIK, Sonja. Plant communities with yellow oat grass (*Trisetum flavescens* (L.) Pb.) in the submontane and montane regions of Slovenia. *Hacquetia*, ISSN 1581-4661, 2012, vol. 11, no. 2, str. 179-207, ilustr., doi: [10.2478/v10028-012-0009-y](https://doi.org/10.2478/v10028-012-0009-y). [COBISS.SI-ID [19626504](#)]