Univerza v Mariboru

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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**	**Poletni/ Zimski**
Biology and Ecology with Nature Conservation, 2nd Level	**/**	**1/2**	**Summer/ Winter**

Vrsta predmeta / Course type Izbirni / elective

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	**Seminar Seminar**	**Sem. vaje Tutorial**	**Lab. vaje Laboratory work**	**Teren. vaje Field work**	**Samost. delo Individ. work**	**ECTS**
15	**15**	**-**	**-**	**15**	**135**	**6**

Nosilec predmeta / Lecturer: Sonja ŠKORNIK

Jeziki / Languages:		
	Predavanja / Lectures:	**Slovenski/Slovenian**
	Vaje / Tutorial:	**Slovenski/Slovenian**

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Jih ni	**No.**

Vsebina:

- 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

Content (Syllabus outline):

- 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:

- Bohn, U., G. Gollub, C. Hettwer, Z. Neuhäuslová, T. Raus, H. Schlüter, H. Vegetation of Europe, Federal Agency for Nature Conservation, Bonn.
- Chapin, F. S., P. A. Matson, H. A. Mooney, 2002: Principles of terrestrial ecosystem ecology. Springer Verlag.
- Dierschke, H., 1994: Pflanzensoziologie. Ulmer, Stutgart.
- Ellenberg, H., 1996: Vegetation Mitteleuropas mit den Alpen.
- Gurevitch, J., S. Scheiner, G. Fox, 2002: Plant ecology. Sinauer Associates Inc. Publishers, Sunderland, Massachutsetts, USA.
- der Maarel, E. 2005: Vegetation Ecology, Blackwell publishing.
- Keddy, P.A., 2007: Plant and vegetation, Cambridge University Press.
- Mucina, L., G. Grabherr, S. Wallnöfer, 1993: Die Pflanzengesellschaften Österreichs. Teil I-III Wälder und Gebüsche. Gustav Fisher, Jena.
-Podani, J. 1993: Syn-tax-pc. Computer Programs for Multivariate data analysis in ecology and Systematics. Version 5.0. Budapest.
- 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:

- Razložiti osnovne pojme v vegetacijski ekologiji
- Pregled osnovnih zakonitosti, konceptov in teorij v vegetacijski ekologiji
- Podati pregled okoljskih dejavnikov, ki vplivajo na razvoj vegetacije

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

- 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 - Predstaviti različne pristope pri klasificiranju vegetacije na Zemlji - Podati pregled nad vegetacijo Zemlje, Evrope in Slovenije - Predstaviti najbolj ogrožene tipe vegetacije v Slovenije, njihovo varovanje in upravljanje z njimi	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 different perspectives of vegetation classification - To present vegetation odf World, Europe and Slovenia - To present vegetation types at risk in Slovenia, their conservation and management

Predvideni študijski rezultati:	**Intended learning outcomes:**
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 - Razumevanje konceptov različnih pristopov pri klasificiranju vegetacije na Zemlji - Imeti pregled nad tipi vegetacije na Zemlji, 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	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 tpyes of diversity - Knowledge of methodology for vegetation sampling and analysis of vegetation data with main stress on modern numerical analysis - Understanding of different perspectives of vegetation classification - An overwiew over present vegetation of the World, Europe and Slovenia - Knowledge about the vegetation types at risk in Slovenia, their conservation and management

Metode poučevanja in učenja:	**Learning and teaching methods:**
- Predavanja - Seminarji - Terenske vaje	- Lectures - Seminars - Field work

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt) - Seminarska naloga in predstavitev - Pisni izpit	30% 70%	Type (examination, oral, coursework, project): - Seminar essay and its presentation - Written examination

Reference nosilca / Lecturer's references:

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.

MASON, Norman W. H., PIPENBAHER, Nataša, ŠKORNIK, Sonja, KALIGARIČ, Mitja. Does complementarity in leaf phenology and inclination promote co-existence in a species-rich meadow? : evidence from functional groups. *J. veg. sci.*, Article first published online: 1 AUG 2012, doi: 10.1111/j.1654-1103.2012.01451.x.

PIPENBAHER, Nataša, KALIGARIČ, Mitja, ŠKORNIK, Sonja. Functional comparision of the sub-Mediterranean illyrian meadows from two distinctive geological substrates = Confronto funzionale di praterie sub-mediterranee illiriche di due substrati geologici distinti = Funkcionalna primerjava submediteranskih ilirskih travnikov z dveh različnih geoloških podlag. *Ann, Ser. hist. nat.*, 2008, letn. 18, št. 2, str. 247-258.

PIPENBAHER, Nataša, KALIGARIČ, Mitja, ŠKORNIK, Sonja. Floristic and functional comparision of karst pastures and karst meadows from the North Adriatic Karst = Floristična in funkcionalna primerjava kraških pašnikov in kraških travnikov severnojadranskega Krasa. *Acta carsol.*, 2011, letn. 40, št. 3, str. 515-525.

KALIGARIČ, Mitja, MEISTER, Margit H., ŠKORNIK, Sonja, ŠAJNA, Nina, KRAMBERGER, Branko, BOLHÁR-NORDENKAMPF, Harald R. Grassland succession is mediated by umbelliferous colonizers showing allelopathic potential. *PlantBiosyst. (Firenze, Testo stamp.)*, 2011, vol. 145, no. 3, str. 688-698.