Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Ekologija rastlin obmorskih habitatov
Course title:	Plant Ecology of Coastal Marine Habitats

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. ali 2.	2/3
Biology and Ecology with Nature Conservation, 2nd cycle	/	1st or 2nd	2/3

Vrsta predmeta / Course type Izbirni / Elective

Univerzitetna koda predmeta / University course code:

Predavanja **Lectures**	**Seminar** **Seminar**	**Vaje** **Tutorial**	**Laboratorijske vaje** **Laboratory work**	**Terenske vaje / Field work**	**Samost. delo** **Individ. work**	**ECTS**
30			**10**	**5**	**135**	**6**

Nosilec predmeta / Lecturer: Mitja Kaligarič, Nina Šajna

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites:**
Jih ni.	None.

Vsebina:

Content (Syllabus outline):

• Značilnosti obmorskih habitatov • Ekološki gradienti od morja proti kopnemu • Razširjenost vrst po gradientu • Prilagoditve halofitov od semena do odrasle rastline • Sobivanje vrst • Obmorski habitatni tipi in združbe halofitov	• Characteristics of coastal marine habitats • Coastal ecological gradients • Species distribution along gradient • Adaptations of halophytes from seed to mature plant • Species coexistence • Coastal marine habitat types and halophyle communities

Temeljni literatura in viri / Readings:

Temeljna literatura / Basic readings:

- Jogan, N., M. Kaligarič, M., I. Leskovar, A. Seliškar, J. Dobravec, 2004: Habitatni tipi Slovenije HTS 2004. Tipologija. Agencija republike Slovenije za okolje. Ljubljana.
- Ungar, I. A., 1991: Ecophysiology of vascular halophytes. CRC Press, Boca Ranton.

Priporočena literatura/ Recommended literature:

- Little, C., Williams, G.A., Trowbridge, C.D., 2009: The Biology of Rocky Shores. Oxford University Press.
- Maun, M.A., 2009: The Biology of Coastal Sand Dunes. Oxford University Press.
- Rdeči seznami ogroženih rastlinskih vrst

Cilji in kompetence:	**Objectives and competences:**
• Identificiranje in opis značilnosti posameznih obmorskih habitatov. • Primerjava raznolikost obmorskih habitatov. • Razvrstitev habitatov v habitatne tipe ter kategorizacija glede na rastlinske združbe. • Analiziranje različnih ekoloških gradientov, ki so prisotni in opredelitev njihovega vpliva na razširjenost posameznih halofitnih vrst. • Ovrednotenje osnovnih prilagoditev halofitov na nivoju semena, anatomije, morfologije in na funkcionalnem nivoju. • Primerjanje dejavnikov, ki omogočajo sobivanje vrst vzdolž gradienta. • Ovrednotenje pestrosti obmorskih habitatov in njihove prisotnosti na slovenski obali.	• Identification of basic characteristics of coastal marine habitats. • Comparison of marine coastal habitat diversity. • Categorization of habitats according to habitat types and plant communities. • Analysis of various ecological gradients present and their influence on distribution of halophytes. • Evaluation of halophyte adaptations on the level of seeds to the levels of anatomy, morphology and functionality of adult plant. • Comparison of factors, which enable species coexistence along gradients. • Evaluation of the coastal marine habitats biodiversity and their occurrence along the Slovenian coast.

Predvideni študijski rezultati:	**Intended learning outcomes:**

Po uspešno opravljeni učni enoti naj bi bili študenti zmožni:	By the end of this course students should be able to:
• opredeliti različne obmorske habitate s poudarkom na habitatih, ki se pojavljajo na slovenski obali; • opredeliti osnovno habitatno tipologijo in rastlinske združbe halofitov • primerjati dejavnike, ki vplivajo na vzorce pojavljanja halofitov vzdolž gradienta; • pojasniti prilagoditve halofitov od posebnosti pri kalitvi semen do anatomske zgradbe in funkcionalnega nivoja odraslih rastlin.	• define the variability of coastal habitats, especially of those present at the Slovenian coast; • define the basic habitat typology and halophytic communities; • compare factors influencing the distribution patterns of halophytes along the elevation gradient • explain the halophytes' adaptations from seed germination to anatomical structure and functional level of mature plants.

Metode poučevanja in učenja:	**Learning and teaching methods:**
• Predavanja • Terenske vaje • Laboratorijske vaje • Individualno delo	• Lectures • Field work • Laboratory work • Individual work

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt):		Type (examination, oral, coursework, project):
• Prisotnost na terenskih in laboratorijskih vajah pogoj za pristop k izpitu	5%	• Laboratory work and field trip attendance prerequisite for access to exam
• Pisni izpit	95%	• Written exam

Reference nosilca / Lecturer's references:

- ŠAJNA, Nina. (2016) Alien plant species invading rare and protected habitats in Slovenia. V: TRAVLOS, Ilias S. (ur.). *Weed and pest control : molecular biology, practices and environmental impact*, (Plant science research and practices). New York: Nova Publishers. str. 35-54.
- IVAJNŠIČ, Danijel, ŠAJNA, Nina, KALIGARIČ, Mitja. (2016) Primary succession on re-created coastal wetland leads to successful restoration of coastal halophyte vegetation. Landscape and Urban Planning, vol. 150, str. 79-86.
- IVAJNŠIČ, Danijel, LIPEJ, Lovrenc, ŠKORNIK, Iztok, KALIGARIČ, Mitja. (2017) The sea level rise impact on four seashore breeding birds: the key study of Sečovlje Salina Nature Park. Climatic change, vol. 140, str. 549-562.
- IVAJNŠIČ, Danijel, KALIGARIČ, Mitja, FANTINATO, Edy, DEL VECCHIO, Silva, BUFFA, Gabriella. (2018) The fate of coastal habitats in the Venice Lagoon from the sea level rise perspective. Applied geography, 2018, vol. 98, str. 34-42.