



Univerza v Mariboru
University of Maribor

Fakulteta za naravoslovje in
matematiko
Faculty of Natural Sciences
and Mathematics

OPIS PREDMETA / SUBJECT SPECIFICATION

Predmet:	Ekologija morja
Subject Title:	Principles of Marine Ecology

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
Ekologija z naravovarstvom /Ecology with Nature Conservation	Ekologija z naravovarstvom /Ecology with Nature Conservation	3	6

Univerzitetna koda predmeta / University subject code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Lab. work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
30			15	15	60	4

Nosilec predmeta /
Lecturer:

Lovrenc LIPEJ

Jeziki /
Languages:

Predavanja /
Lecture:

slovenski/Slovenian

Vaje / Tutorial:

slovenski/Slovenian

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

Prerequisites:

Jih ni.

No.

Vsebina:

V okviru predmeta se bodo slušatelji seznanili z morskó ekologijo. Spoznali bodo biotske in abiotske dejavnike, ki vplivajo na razporeditev živih organizmov v morskem ekosistemu in na njihovo številčnost ter vrstno pestrost. Seznanili se bodo z osnovami ekologije planktona, bentosa in nektona in spoznali prilagoditve planktonskih, bentoških in nektonskih živih organizmov. Posebna pozornost bo posvečena ekološkim interakcijam v morskem svetu (razne simbioze, prehranjevalni splet, mikrobna zanka). Slušatelji se bodo

Contents (Syllabus outline):

In the framework of marine ecology students will have the opportunity to achieve knowledge of biotic and abiotic factors, involved in the distribution, abundance and species diversity of living organisms inhabiting the marine realm. They will get basic information on the principles of plankton, benthos and nekton ecology and on typical adaptations of plankton, benthic and nekton organisms. Special emphasis will be given to the ecological interactions in the marine realm (varieties of symbiosis, food web, microbial loop). They will also

seznanili tudi z osnovnimi pojmi iz historične in recentne morske biogeografije ter z uvodom v bentoško bionomijo.

achieved some basic knowledge of the historical and recent marine biogeography and benthic bionomy.

Temeljni študijski viri / Textbooks:

- Nybakken, J. W., 1997: Marine Biology: An Ecological Approach. 4th Edition. Addison-Wesley Educational Publ. Inc.
- Pérès, J-M., H. Gamulin Brida, 1973: Biološka oceanografija. Bentos. Bentoska bionomija Jadranskog mora. Školska knjiga, Zagreb.
- Tarman, K., 1992: Osnove ekologije in ekologija živali. DZS, Ljubljana.
- Thurman, H. V., H. H., Webber, 1984: Marine Biology. Scott, Foresman and Co., Glenview, London.

Cilji:

- Podati razdelitev morskega ekosistema po pasovih (zonacija)
- Razložiti abiotike in biotike dejavnike, ki vplivajo na razporeditev, abundanco in diverzitetu živega sveta
- Pojasniti različne ekološke procese v morju
- Pojasniti osnove morske biogeografije s posebnim ozirom na bentoško bionomijo
- Primerno predstaviti prilagoditve planktonskih, bentoških in nektonskih organizmov
- Primerno predstaviti morske vire
- Razložiti kompleksnost prehranjevalnih verig in prehranjevalnega spleta ter pretoka energije
- Primerno predstaviti ekološke posebnosti v slovenskem morju (sluzenje morja, cvetenje morja, hipoksije in anoksije, masovna pojavljanja, tujerodne vrste)

Objectives:

- To give the overview of the zonation of the littoral in different stages.
- To explain the biotic and abiotic factors, which affect the distribution, abundance and diversity of the living organisms.
- To explain different ecological processes in the sea.
- To explain the principles of marine biogeography and especially benthic bionomy.
- To present the ecological adaptations of planktonic, benthic and nektonic species.
- To present the most representative living resources.
- To explain the complexity of energy transfer through food chains and food web.
- To present the special ecological features in the Slovenian sea (mucus aggregates, algal blooming, hypoxia and anoxia phenomena, massive swarming and others).

Predvideni študijski rezultati:

Znanje in razumevanje:

- Zonacija morskega ekosistema
- Dejavniki, ki vplivajo na razporeditev, abundanco in diverzitetu
- Ekološki procesi in interakcije v morju
- Osnovna morska biogeografija s temelji bentoške bionomije

Prenesljive/ključne spretnosti in drugi atributi:

Intended learning outcomes:

Knowledge and Understanding:

- Zonation of the marine ecosystem
- Biotic and abiotic factors affecting the distribution, abundance and diversity of the living organisms
- Ecological processes and interactions
- Knowledge about the principles of marine biogeography and benthic bionomy

Transferable/Key Skills and other attributes:

• Prepoznavanje obalnih pasov. • Določanje po dihonomnem ključu. • Razumevanje vloge ekoloških dejavnikov na procese v morju • Sposobnost prepoznavanja prilagoditev živih organizmov	• Recognition of littoral stages. • Determination with dichotomic keys. • Capability of understanding the role of ecological factors on the processes in marine realm. • Capability of recognition of adaptations of living organisms.
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Metode poučevanja in učenja:

Learning and teaching methods:

• Predavanja • Laboratorijske vaje • Terenske vaje	• Lectures • Laboratory excersises • Field excersises
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Načini ocenjevanja:

Delež (v %) / **Assessment:**
Weight (in %)

• Praktični izpit • Pisni izpit	50 % 50 %	• Practical examination • Written examination
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Materialni pogoji za izvedbo predmeta :

Material conditions for subject realization

• <i>Multimedijska predavalnica</i> • <i>Laboratorij z mikroskopi in binokularnimi lupami</i> • <i>Ekskurzije na teren</i>	• <i>Lecture hall for multimedia presentations</i> • <i>Laboratory with microscopes and binocular lenses</i> • <i>Field excursions</i>
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Obveznosti študentov:

Students' commitments:

<i>(pisni, ustni izpit, naloge, projekti)</i>	<i>(written, oral examination, coursework, projects):</i>
• Praktični izpit • Izpit - pisni	• Practical examination • Examination - written