



Univerza v Mariboru
University of Maribor

Fakulteta za naravoslovje in
matematiko
Faculty of Natural Sciences
and Mathematics

OPIS PREDMETA / SUBJECT SPECIFICATION

Predmet:	Populacijska ekologija
Subject Title:	Population 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	5

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	135	6

Nosilec predmeta /
Lecturer:

Davorin TOME

Jeziki /
Languages:

Predavanja /
Lecture:

slovenski/Slovenian

Vaje / Tutorial:

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

Prerequisites:

Jih ni.

No.

Vsebina:

Čeprav ekologijo pogosto delimo na rastlinsko, živalsko, morsko itd., so v osnovi ekološki mehanizmi na vseh področjih enaki. Še posebej se to kaže pri mehanizmih delovanja populacij. Enake populacijske zakonitosti veljajo pri rastlinah, živalih, med populacijami globokomorskih združb ali med bakterijami ali glivami. Namen predmeta je predstaviti osnovne populacijske procese in pojasniti, kako vplivajo na populacijsko dinamiko. Osrednji del predmeta bo namenjen spoznavanju populacijskih procesov: rodnost, smrtnost, od gostote odvisni ter od

Contents (Syllabus outline):

We frequently divide ecology to plant ecology, animal ecology, marine ecology etc., although basic ecological processes in all are the same. This is especially evident in populations. The same population principles rules among plants, animals, among populations of deep sea vent communities, among bacteria, fungi. Aim of the course is to present basic population processes, and to explain how do they influence the population dynamics. The central part of the lecture will be understanding of population processes:

gostote neodvisni mehanizmi, kompenzacijska točka, razlike med populacijami s prekritimi in ločenimi generacijami, kako na populacijske procese vplivajo abiotiki in biotiki dejavniki itd.

Teoretično znanje bo ilustrirano s praktičnimi primeri.

birth, mortality, density dependent, density independent processes, compensation point, differences among populations with discrete and overlapping generations, influence of abiotic and biotic conditions on population processes.

Theoretical background will be throughout illustrated with practical examples.

Temeljni študijski viri / Textbooks:

- Begon, M., J.L. Harper, C.R. Townsend, 1996: Ecology. Blackwell Science.
- Begon, M., M. Mortimer, D.J. Thompson, 1996: Population ecology. Blackwell Science
- Pianka, E.R., 2000: Evolutionary ecology. Addison Wesley Educational Publishers.
- Tarman, K., 1994: Osnove ekologije in ekologija živali. DZS

Cilji:

- Predstaviti populacijo kot osnovno ekološko enoto in njene lastnosti
- Predstaviti neposredne in posredne vzroke, mehanizme in procese, ki vplivajo na populacijsko dinamiko

Objectives:

- To present a population as a basic ecological unit, and its characteristics
- To present direct and indirect causes, mechanisms and processes influencing population dynamics

Predvideni študijski rezultati:

Znanje in razumevanje:

- Študentje spoznajo ravnovesje med različnimi populacijskimi mehanizmi, ki določajo populacijsko velikost in dinamiko
- Spoznajo, da so kljub identičnim populacijskim mehanizmom reakcije različnih vrst na spremembe v okolju različne, kar je v veliki meri posledica razlik v življenjskih strategijah
- Naučijo se opisati lastnosti populacij

Prenesljive/ključne spretnosti in drugi atributi:

- Pridobljeno znanje bo mogoče aplicirati na naravovarstvene probleme, kdaj so problemi za populacijo lahko kritični, kdaj ne

Intended learning outcomes:

Knowledge and Understanding:

- Students capture a balance between different population processes, resulting in the population size and dynamics
- Students understand that in spite of similar population rules, species differ in reactions to similar environmental changes as a consequence of different life history traits
- They learn to describe population characteristics

Transferable/Key Skills and other attributes:

- The knowledge will be applicable to conservation problems - better understanding of, when a problem is critical to a population and when is not

Metode poučevanja in učenja:

- Predavanja
- Seminarsko delo

Learning and teaching methods:

- Lectures
- Seminar work

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

• Seminarsko delo – pisno in ustno (predpogoj za udeležbo na izpitu) • Pisni izpit	20 80	• Seminar work – written and oral presentation (obligatory before the exam) • Written exam
---	--------------	---

Materialni pogoji za izvedbo predmeta :**Material conditions for subject realization**

- *Multimedijska predavalnica*

- *Lecture hall for multimedia presentations*

Obveznosti študentov:**Students' commitments:***(pisni, ustni izpit, naloge, projekti)**(written, oral examination, coursework, projects):*

- Seminarsko delo – pisno in ustno (predpogoj za udeležbo na izpitu)
- Pisni izpit

- Seminar work – written and oral presentation (obligatory before the exam)
- Exam - written