



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Izbrana poglavja iz morfometrije
Course title:	Selected Topics in Morphometrics

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.; 1 st or 2 nd	1.- 4.; 1 st -4 th
Doctoral Study Ecological Sciences, 3 rd cycle			

Vrsta predmeta / Course type:

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
10	20				150	6

Nosilec predmeta / Lecturer:

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

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

Vsebina:

Tradicionalna in geometrijska morfometrija.
Velikost vzorca in spremenljivke.
Teorija velikosti in oblike.
Analize velikosti.
Analize oblike.
Analize alometrije, ontogenije, filogenije, ekomorfologije in/ali modularnosti.
Izbrane metode in analize prilagojene interesu in doktorski temi posameznih študentov.

Content (Syllabus outline):

Traditional and geometric morphometrics.
Sample size and variables.
Theory of size and shape.
Analyses of size.
Analyses of shape.
Analyses of allometry, ontogeny, phylogeny, ecomorphology and/or modularity.
Selected methods and analyses in accordance with students' interests and doctoral thesis.

Temeljni literatura in viri / Readings:

Klenovšek, T. (2014). *Priročnik za uporabo geometrijske morfometrije v biologiji* (str. 78). Fakulteta za naravoslovje in matematiko.

Dodatna literatura:

Zelditch, M. L. (2004). *Geometric Morphometrics for Biologists : A Primer*. Academic Press.

Cardini, A. (2024). *A practical, step-by-step, guide to taxonomic comparisons using Procrustes geometric morphometrics and user-friendly software (part A): introduction and preliminary analyses*. *European Journal of Taxonomy* 934: 1–92. <https://doi.org/10.5852/ejt.2024.934.2527>

Cardini, A. (2024). *A practical, step-by-step, guide to taxonomic comparisons using Procrustes geometric morphometrics and user-friendly software (part B): group comparisons*. *European Journal of Taxonomy* 934: 93–186. <https://doi.org/10.5852/ejt.2024.934.2529>

Cilji in kompetence:

Pridobiti sposobnost:

- načrtovanja morfometrične raziskave,
- izvedbe meritev,
- analize podatkov in interpretacije rezultatov morfometričnih analiz.

Sposobnost izvedbe naprednih statističnih analiz na biometričnih podatkih.

Objectives and competences:

Gaining ability:

- to plan a morphometric research,
- to conduct measurements,
- to analyse data and interpret results of morphometric analyses.

Ability to conduct advanced statistical analyses on biometric data.

Predvideni študijski rezultati:

Znanje in razumevanje:

- načrtovanje, izvedba in ovrednotenje biometrične raziskave

Prenesljive/ključne spretnosti in drugi atributi:

- Sposobnost načrtovanja in izvedbe najzahtevnejših biometričnih meritev.
- Sposobnost analize in interpretacije najzahtevnejših biometričnih raziskav.

Intended learning outcomes:

Knowledge and understanding:

- planing, conducting, evaluation of morphometric research

Transferable/Key Skills and other attributes:

- Ability to plan and execute the most demanding biometric measurements.
- Ability to analyze and interpret advanced biometric research.

Metode poučevanja in učenja:

- Predavanje
- Seminar

Learning and teaching methods:

- Lectures
- Seminar

Načini ocenjevanja:

Delež (v %) /

Weight (in %) **Assessment:**

Seminarska naloga	100	Seminar paper
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Reference nosilca / Lecturer's references:

KLENOVŠEK, Tina, JAKŠIĆ, Predrag, JANŽEKOVIČ, Franc. Size and shape variability of the wing in burnet moth, *Zygaena ephialtes* (L., 1767) (Lepidoptera: Zygaenidae) = Burnet güvesi, *Zygaena ephialtes* (L., 1767) (Lepidoptera: Zygaenidae)'nde kanadın boy ve şekil değişkenliği. *Turkish journal of entomology*. 2022, vol. 46, iss. 2, str. 239-247. ISSN 2536-491X.

DOI: [10.16970/entoted.1096288](https://doi.org/10.16970/entoted.1096288). [COBISS.SI-ID [118037251](#)],

JANŽEKOVIČ, Franc, KLENOVŠEK, Tina. The biogeography of diet diversity of barn owls on Mediterranean islands. *Journal of biogeography*. 2020, vol. 47, iss. 11, str. 2353-2361, ilustr. ISSN 0305-0270. [COBISS.SI-ID [35935747](#)],

DEVETAK, Dušan, PODLESNIK, Jan, SCHARF, Inon, KLENOVŠEK, Tina. Fine sand particles enable antlions to build pitfall traps with advanced three-dimensional geometry. *Journal of Experimental Biology*. Aug. 2020, vol. 223, no. 15, str. 1-10. ISSN 0022-0949. DOI: [10.1242/jeb.224626](https://doi.org/10.1242/jeb.224626).

[COBISS.SI-ID [28827907](#)],