



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Raziskovalne metode v biologiji in ekologiji
Course title:	Scientific methods in Biology and Ecology

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Ekologija z naravovarstvom, 1. stopnja	/	3.	6.
Ecology with Nature Conservation, 1 st Cycle	/	3rd	6th

Vrsta predmeta / Course type

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
15	30	15			90	5

Nosilec predmeta / Lecturer:

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

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

Jih ni.

Prerequisites:

No prerequisites.

Vsebina:

Content (Syllabus outline):

- Predstavitev različnih metod dela z organizmi, združbami organizmov in habitati.
- Izbrani načini uporabe različnih tehnik mikroskopiranja, eksperimentov z organizmi v laboratoriju in na prostem.
- Predstavitev različnih raziskovalnih metod, vključno z obdelavo podatkov in predstavitvijo rezultatov in diskusijo.

- Presentation of different research methods with organisms, communities and habitats.
- Selected techniques of using microscope, performing experiments with organisms in the laboratory and in the field.
- Presentation of different research methods, including elaboration and analysis of data, presenting the results and discussion.

Temeljni literatura in viri / Readings:

- Jones A., Reed R., Weyers J. Practical skills in biology. 2007, Pearson Education.
- Moore P.D., Chapman S.B. (Ur.) Methods in Plant Ecology. 1986, Blackwell, Oxford.
- Smith R.L., Smith T.M. Ecology and field biology. 2001, Benjamin Cummings, San Francisco

Cilji in kompetence:

Študenti se seznanijo s

- različnimi tehnikami in aparaturami za delo v biologiji in ekologiji.
- različnimi metodami, ki se uporabljajo v biologiji in ekologiji.
- pristopi za obdelavo podatkov, predstavitev rezultatov in diskusijo.

Objectives and competences:

Students get familiar with

- different techniques and equipments for scientific research in biology and ecology.
- different methods, which are in use in biology and ecology.
- approaches for data analysis, presentation of the results and discussion.

Predvideni študijski rezultati:

Znanje in razumevanje:

Študenti znajo

- uporabiti različne ustrezne metode dela v biologiji in ekologiji.
- uporabiti različne metode analize podatkov in predstavitve rezultatov.

Intended learning outcomes:

Knowledge and understanding:

Students are able to

- use various appropriate methods in biology and ecology.
- use different methods for data analysis and presentation of results.

Metode poučevanja in učenja:

Learning and teaching methods:

<ul style="list-style-type: none"> · Predavanja · Seminarji · Laboratorijske vaje 	<ul style="list-style-type: none"> · Lectures · Seminars · Laboratory work
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Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
<ul style="list-style-type: none"> · Seminarjska naloga in njena predstavitev · Pisni izpit 	60	<ul style="list-style-type: none"> · Seminar work and its presentation
	40	<ul style="list-style-type: none"> · Written examination

Reference nosilca / Lecturer's references:

Sonja ŠKORNIK:
 ŠKORNIK, Sonja, PIPENBAHER, Nataša. Primerjava funkcionalnih potez dominantnih in podrejenih rastlinskih vrst v suhih travniških asociacije Scabioso hladnikianae-Caricetum humilis v Sloveniji = Relationship in plant functional traits between dominant and subordinate plant species in dry grassland association Scabioso hladnikianae-Caricetum humilis in Slovenia. *Hladnikia*, ISSN 1318-2293. [Tiskana izd.], apr. 2018, [Št.] 41, str. 26-41, ilustr. [COBISS.SI-ID [4713295](#)]

DENGLER, Jürgen, PIPENBAHER, Nataša, ŠKORNIK, Sonja, et al. GrassPlot - a database of multi-scale plant diversity in Palearctic grasslands. *Phytocoenologia*, ISSN 0340-269X, 2018, vol. 48, iss. 3, str. 331-347, ilustr., doi: [10.1127/phyto/2018/0267](https://doi.org/10.1127/phyto/2018/0267). [COBISS.SI-ID [24005128](#)]

KALIGARIČ, Mitja, ČUŠ, Jure, ŠKORNIK, Sonja, IVAJNŠIČ, Danijel. The failure of agri-environment measures to promote and conserve grassland biodiversity in Slovenia. *Land use policy*, ISSN 0264-8377. [Print ed.], 2019, 80, str. 127-134, ilustr., doi: [10.1016/j.landusepol.2018.10.013](https://doi.org/10.1016/j.landusepol.2018.10.013). [COBISS.SI-ID [24068872](#)]

Saška LIPOVŠEK:
 LIPOVŠEK DELAKORDA, Saška, LEITINGER, Gerd, NOVAK, Tone, JANŽEKOVIČ, Franc, GORGOŃ, Szymon, KAMIŃSKA, Karolina, ROST-ROSZKOWSKA, Magdalena. Changes in the midgut cells in the European cave spider, *Meta menardi*, during starvation in spring and autumn. *Histochemistry and cell biology*, ISSN 0948-6143, Mar. 2018, vol. 149, iss. 3, str. 245-260, ilustr. <https://link.springer.com/article/10.1007/s00418-017-1623-z>, doi: [10.1007/s00418-017-1623-z](https://doi.org/10.1007/s00418-017-1623-z). [COBISS.SI-ID [23496712](#)]

LIPOVŠEK DELAKORDA, Saška, NOVAK, Tone, JANŽEKOVIČ, Franc, BRDELAK, Nina, LEITINGER, Gerd. Changes in the midgut diverticula epithelial cells of the European cave spider, *Meta menardi*, under controlled winter starvation. *Scientific reports*, ISSN 2045-2322, 2018, vol. 8, art. no. 13645, str. 1-13, ilustr. <https://www.nature.com/articles/s41598-018-31907-3>, doi: [10.1038/s41598-018-31907-3](https://doi.org/10.1038/s41598-018-31907-3). [COBISS.SI-ID [24023560](#)]

LIPOVŠEK DELAKORDA, Saška, JANŽEKOVIČ, Franc, NOVAK, Tone. Ultrastructure of fat body cells and Malpighian tubule cells in overwintering *Scoliopteryx libatrix* (Noctuoidea). *Protoplasma*, ISSN 0033-183X, 2017, vol. 254, iss. 6, str. 2189-2199, ilustr., doi: [10.1007/s00709-017-1110-3](https://doi.org/10.1007/s00709-017-1110-3). [COBISS.SI-ID [23074056](#)]