



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

### UČNI NAČRT PREDMETA / COURSE SYLLABUS

|                      |                       |
|----------------------|-----------------------|
| <b>Predmet:</b>      | <b>Fitocenologija</b> |
| <b>Course title:</b> | <b>Phytocenology</b>  |

| Študijski program in stopnja<br>Study programme and level | Študijska smer<br>Study field | Letnik<br>Academic year | Semester<br>Semester |
|-----------------------------------------------------------|-------------------------------|-------------------------|----------------------|
| Biologija, 1. stopnja                                     |                               | 2.                      | 4.                   |
| Biology, 1st cycle                                        |                               | 2 <sup>nd</sup>         | 4 <sup>th</sup>      |

Vrsta predmeta / Course type

Izbirni / Elective

Univerzitetna koda predmeta / University course code:

| Predavanja<br>Lectures | Seminar<br>Seminar | Sem. vaje<br>Tutorial | Lab. vaje<br>Laboratory work | Teren. vaje<br>Field work | Samost. delo<br>Individ. work | ECTS |
|------------------------|--------------------|-----------------------|------------------------------|---------------------------|-------------------------------|------|
| 15                     | 15                 |                       |                              | 15                        | 135                           | 6    |

Nosilec predmeta / Lecturer:

Sonja ŠKORNIK

Jeziki /

Languages:

Predavanja /

Lectures:

slovenski / slovene

Vaje / Tutorial:

slovenski / slovene

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

Vsaka izmed naštetih obveznosti v načinih ocenjevanja mora biti opravljena s pozitivno oceno.

Redna prisotnost na terenskih vajah so pogoj za pristop k pisnemu izpitu.

**Prerequisites:**

Each of the mentioned commitments must be assessed with a passing grade.

Regular attendance at fieldwork is a prerequisite for taking the written exam.

**Vsebina:**

**Content (Syllabus outline):**

Fitocenologija je veda o rastlinskih združbah/tipih vegetacije, o njihovi sestavi, razmerju do okolja, razvoju in razširjenosti v času in prostoru. Je hkrati tudi veda, ki se ukvarja z uvrščanjem rastlinskih združb v sistem rastlinskih združb (t.i. sinsistem). Rastlinske združbe (tipi vegetacije) so osnova, na katerih so definirani habitatni tipi, poznavanje habitatnih tipov na določenem območju pa je osnova oblikovanja območij varovanja narave npr. NATURA 2000 območij, krajinskih parkov inp.

V okviru predmeta bodo predstavljeni:

- osnovni koncepti in definicije v fitocenologiji in zgodovina nastanka in razvoja vede.
- Obravnavane bodo metodologije vzorčenja, obdelave vegetacijskih podatkov in oblikovanja Sistema rastlinskih združb.
- Študenti se bodo seznanili s poglavitnimi tipi rastlinskih združb v Sloveniji.
- Posebej bodo predstavljene ogrožene rastlinske združbe (in habitatni tipi) v Sloveniji: vzroki za ogroženost, njihovo varovanje in upravljanje z njimi. Znanja, pridobljena na predavanjih, bodo študenti utrdili in poglobili na seminarjih in pri terenskem pouku.

Phytocoenology is the study of the plant communities, their structure, relationship with environment, development and their distribution in time and space. It is also study, which deals with the classification of plant communities in synsystem. Plant communities (vegetation types) are also basis for habitat types categorization, knowledge of habitat types in a given area is basis for designation of special areas of nature conservation as Natura 2000 area or landscape park etc. In the frame of this subject:

- the basic concepts and definitions in phytocoenology will be presented and also the history of its development.
- The methodologies for sampling and analyzing the vegetation data as well as for the creation of synsystem of plant communities will be presented and discussed.
- Students will make acquaintance with the principal types of plant communities in Slovenia
- Plant communities (and habitat types) at risk in Slovenia will be presented: main reasons for their endangerment, their conservation and management.

The knowledge acquired on lectures will be used on seminars and field work.

### Temeljni literatura in viri / Readings:

Temeljna literatura / Basic:

- Ellenberg, H. (1986). *Vegetation Mitteleuropas mit den Alpen in ökologischer Sicht* (4., verb. Aufl., str. 989). Ulmer.
- Škornik, S., Paušič, I., Bakan, B., & Kaligarič, M. (2023). *Katalog polnaravnih travnišč Slovenije* (1. izd.). Univerza v Mariboru, Univerzitetna založba.  
<https://press.um.si/index.php/ump/catalog/book/783>

Priporočena literatura / Recommended:

- Gurevitch, J., Scheiner, S. M., & Fox, G. A. (2006). *The ecology of plants* (2nd ed., str. XVII, 574). Sinauer Associates.
- Keddy, P.A., 2007: Plant and vegetation, Cambridge University Press.

**Cilji in kompetence:**

**Objectives and competences:**

Študenti se seznaniijo z

- osnovnimi definicijami v fitocenologiji,
- različnimi metodami za vzorčenje vegetacije,
- različnimi metodami za obdelavo vegetacijskih podatkov s poudarkom na modernih numeričnih metodah,
- rastlinskimi združbami Slovenije,
- najbolj ogroženimi tipi združb in na njih osnovanih habitatnih tipov v Sloveniji, njihovim varovanjem in upravljanjem z njimi.

Students get familiar with

- the basic concept and definitions in phytocoenology,
- different methods for sampling of vegetation data,
- different methods for elaboration of vegetation data with main stress on modern numerical analysis,
- main plant communities in Slovenia,
- plant communities and habitat types at risk in Slovenia, their conservation and management.

**Predvideni študijski rezultati:**

Znanje in razumevanje:  
Študenti znajo

- predstaviti osnovne pojme in definicije v fitocenologiji,
- opisati metode za vzorčenje vegetacije, uporabiti izbrane metode obdelave podatkov in uvrščanja rastlinskih združb v sistem rastlinskih združb.
- opisati osnovne tipev združb v Sloveniji.
- naštetih najbolj ogrožene tipe vegetacije/habitatnih tipov v Sloveniji, razloge za njihovo ogroženost, predstaviti načine njihovega varovanja in upravljanja z njimi.

**Intended learning outcomes:**

Knowledge and understanding:  
Students are able to

- present basic concepts and definitions in Phytocoenology,
- describe methodology for vegetation sampling, apply appropriate methods of vegetation data and classification of plant communities in the system,
- describe basic plant communities in Slovenia,
- list the most endangered types of vegetation in Slovenia, identify the reasons for their threat, present the ways for their conservation and management.

**Metode poučevanja in učenja:**

- Predavanja
- Seminarji
- Terenske vaje

**Learning and teaching methods:**

- Lectures
- Seminars
- Fieldwork

**Načini ocenjevanja:****Weight (in %)**

|                     |    |                 |
|---------------------|----|-----------------|
| - Pisni izpit       | 60 | - Written exam  |
| - Seminarska naloga | 40 | - Seminar paper |

**Reference nosilca / Lecturer's references:**

**ŠKORNIK, Sonja**, PIPENBAHER, Nataša. A link between species abundance and plant strategies for semi-natural dry grasslands. *Plants*. Aug. 2024, vol. 13, iss. 16, [article no.] 2260, 17 str. ISSN 2223-7747. <https://www.mdpi.com/2223-7747/13/16/2260>, [Digitalna knjižnica Univerze v Mariboru – DKUM](#), DOI: [10.3390/plants13162260](https://doi.org/10.3390/plants13162260), DOI: [20.500.12556/DKUM-90232](https://doi.org/20.500.12556/DKUM-90232). [COBISS.SI-ID [205162243](#)]

BIURRUN, Idoia, PIELECH, Remigiusz, DEMBICZ, Iwona, GILLET, François, KOZUB, Łukasz, MARCENÒ, Corrado, REITALU, Triin, VAN MEERBEEK, Koenraad, GUARINO, Riccardo, CHYTRÝ, Milan, PIPENBAHER, Nataša, **ŠKORNIK, Sonja**, et al. Benchmarking plant diversity of Palaearctic grasslands and other open habitats. *Journal of vegetation science*. [Online ed.]. Jul./Aug. 2021, vol. 32, iss. 4, 21 str., ilustr. ISSN 1654-1103.

**ŠKORNIK, Sonja**, PAUŠIČ, Igor, NOVAK, Tone, JANŽEKOVICH, Franc, IVAJNŠIČ, Danijel, TOSTOVRŠNIK, Mihaela, KOZEL, Peter. Environmental factors influencing the distribution of habitat types in the highlands of the Kamnik - Savinja Alps. *Plant Biosystems*. 2022, vol. 156, no. 3, str. 710-721.