



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	BOTANIKA – DIFERENCIALNI IZPIT
Course title:	BOTANY – DIFFERENTIAL EXAM

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Diferencialni izpit za magistrski študijski program Biologija in ekologija z naravovarstvom, 2.stopnja	/		
Differential Exam for the postgraduate study program, Biology and Ecology with Nature Conservation, 2nd cycle	/		

Vrsta predmeta / Course type

Obvezni/compulsory

Univerzitetna koda predmeta / University course code:

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

Nosilec predmeta / Lecturer:

Jeziki / Predavanja / Lectures: Slovenski / Slovenian

Languages: Vaje / Tutorial: Slovenski / Slovenian

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

Prerequisites:

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Vsebina:

1. Citologija: funkcionalna struktura celice
2. Delitev celice: mitoza, mejoza
3. Histologija: funkcionalna struktura tkiv
4. Rastlinski organi: korenina, steblo, list, cvet
5. Razmnoževanje, rast in osnove dednosti
6. Podane so morfološke in funkcionalne značilnosti skupin, s poudarkom na načinih razmnoževanja. Poudarjena sta evolucijski aspekt in filogenija ter predstavljeni predstavniki iz domače flore. Evolucija je ilustrirana na konkretnih primerih iz rastlinskega sistema.

Content (Syllabus outline):

1. Citology: cell functional structure.
2. Cell division: mitosis, meiosis.
3. Histology: functional structure of tissues.
4. Plant organs: root, stem, leaf, flower
5. Reproduction, growth and principles of heredity.
6. The morphological and functional characteristics of the groups are given. The evolutionary aspect and phylogeny are stressed, and examples from domestic flora are highlighted. The evolution is illustrated on case studies from plant kingdom.

Temeljni literatura in viri / Readings:

- Heywood, V., 1995: Cvetnice. Kritosemenke sveta. DZS, Ljubljana.
- Martinčič, A. (ed.), 2007: Mala flora Slovenije. Tehniška založba, Ljubljana.
- Raven, P. H., R. F. Evert, S.E. Eichhorn, 1999: Biology of Plants. W. H. Freeman and company Worth Publishers.
- Sitte, P., E. W. Weiler, J. W. Kadereit, A. Bresinsky, C. Körner, 2002: Lehrbuch der Botanik. 35. Auflage. Spektrum Akademischer verlag Heidelberg, Berlin.
- Bresinsky, A., Körner, C., Kadereit, J.W., Neuhaus, G., Sonnewald, U., 2013: Strasburger's
- Plant Sciences. Springer Verlag.

Cilji in kompetence:

1. Razumeti funkcionalno strukturo celice
2. Razumeti delitev celice
3. Razumeti strukturo in funkcijo tkiv in organov
4. Razumevanje razmnoževanja, rasti in osnov dedovanja
5. Razložiti evolucijo in filogenijo nižjih in višjih rastlin
6. Pojasniti različne načine razmnoževanja, v povezavi z evolucijo in morfologijo
7. Utemeljiti sorodstvene odnose med skupinami

Objectives and competences:

8. To understand the structure and functioning of cells.
9. To understand the cell division.
10. To understand the structure and functioning of tissues and organs.
11. To understand the reproduction, growth and principles of heredity.
12. To explain the evolution of lower and higher plants
13. To explain different reproduction cycles, based on evolution and morphology
14. To ground the relationships between the taxonomic groups

Predvideni študijski rezultati:**Intended learning outcomes:**

Znanje in razumevanje: • Morfologija, Anatomija, Evolucija in filogenija rastlin • Sistematska delitev rastlin	Knowledge and understanding: • Morphology, Anatomy, Evolution and phylogeny of plants • Systematics of plants
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Metode poučevanja in učenja:

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Learning and teaching methods:

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Načini ocenjevanja:

Delež (v %) /

Weight (in %)

Assessment:

Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
Pisni izpit		Written examination

Reference nosilca / Lecturer's references:

ŠAJNA, Nina, ŠUŠTAR VOZLIČ, Jelka, KALIGARIČ, Mitja. New insights into the anatomy of an endemic *Hladnikia pastinacifolia* Rchb. *Acta botanica Croatica : an international journal of botany*, ISSN 0365-0588, 2014, vol. 73, no. 2, str. 375-384, ilustr., doi: [10.2478/botcro-2014-0005](https://doi.org/10.2478/botcro-2014-0005). [COBISS.SI-ID [20902152](https://www.cobiss.si/id/20902152)]

PAUŠIČ, Igor, IVAJNŠIČ, Danijel, KALIGARIČ, Mitja, PIPENBAHER, Nataša. Relation between plant species diversity and landscape variables in Central-European dry grassland fragments and their successional derivatives. *Acta botanica Croatica : an international journal of botany*, ISSN 0365-0588, 2017, vol. 76, iss. 2, str. 111-119, ilustr. <https://www.degruyter.com/view/j/botcro.ahead-of-print/botcro-2017-0001/botcro-2017-0001.xml?format=INT>, doi: [10.1515/botcro-2017-0001](https://doi.org/10.1515/botcro-2017-0001). [COBISS.SI-ID [23132168](https://www.cobiss.si/id/23132168)]

KOŽUH, Aljaž, KALIGARIČ, Mitja, IVAJNŠIČ, Danijel. Potential distribution of silver fir (*Abies alba*) in south-eastern Alpine and Dinaric phytogeographic regions of Slovenia and Croatia in the light of climate change. *Annales : anali za istrske in mediteranske študije, Series historia naturalis*, ISSN 1408-533X. [Tiskana izd.], 2017, letn. 27, št. 2, str. 97-106, ilustr., doi: [10.19233/ASHN.2017.12](https://doi.org/10.19233/ASHN.2017.12). [COBISS.SI-ID [24005896](https://www.cobiss.si/id/24005896)]

PAUŠIČ, Igor, KALIGARIČ, Mitja, BAKAN, Branko. Late seasonal mowing enhances central European *Spiranthes spiralis* (L.) Chevall. (Orchidaceae) population viability. *Botany Letters*, ISSN 2381-8107, 2017, str. 1-12, ilustr., doi: [10.1080/23818107.2017.1396495](https://doi.org/10.1080/23818107.2017.1396495). [COBISS.SI-ID [23469064](#)]

KALIGARIČ, Mitja, BRECL, Jožica, ŠKORNIK, Sonja. High potential of sub-Mediterranean dry grasslands for sheep epizoochory. *Open life sciences : formerly Central European journal of biology*, 2016, vol. 11, iss. 1, str. 177-184, doi: [10.1515/biol-2016-0023](https://doi.org/10.1515/biol-2016-0023). [COBISS.SI-ID [22605576](#)]

PAUŠIČ, Igor, KALIGARIČ, Mitja. Dry grassland land use treatment regime explains the occurrence of the green winged orchid, *Anacamptis morio* (L.) R. M. Bateman, Pridgeon & M. W. Chase in the Goričko Nature Park, NE Slovenia = Režim upravljanja s suhimi travišči določa pojavnost navadne kukavice, *Anacamptis morio* (L.) R. M. Bateman, Pridgeon & M. W. Chase v Krajinskem parku Goričko, SV Slovenija. *Folia biologica et geologica*, ISSN 1855-7996. [Tiskana izd.], 2015, letn. 56, št. 3, str. 137-148, ilustr. [COBISS.SI-ID [22114312](#)]