



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

### UČNI NAČRT PREDMETA / COURSE SYLLABUS

<b>Predmet:</b>	<b>Izbrana poglavja iz botanike</b>
<b>Course title:</b>	<b>Selected Topics in Botany</b>

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Doktorski študij Ekološke znanosti, 3. stopnja	EKOLOŠKE ZNANOSTI	1. ali 2.;	1.- 4.;
Doctoral Study Ecological Sciences, 3rd degree	ECOLOGICAL SCIENCES	1st or 2nd	1st-4th

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	10		5	5	150	6

Nosilec predmeta / Lecturer:

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

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

<b>Vsebina:</b> Obravnavana so izbrana poglavja iz naslednjih Sklopov: <ul style="list-style-type: none"><li>• Kemična sestava rastlinske celice</li><li>• Citologija: funkcionalna struktura celice</li><li>• Delitev celice: mitoz, mejoza</li><li>• Histologija: funkcionalna struktura tkiv</li><li>• Rastlinski organi</li><li>• Razmnoževanje, rast in osnove dednosti</li><li>• Pregled sistema nižjih rastlin</li></ul>	<b>Content (Syllabus outline):</b> Selected topics in the following chapters are discussed. <ul style="list-style-type: none"><li>• Chemical structure of plant cell</li><li>• Cytology: cell functional structure</li><li>• Cell division: mitosis, meiosis</li><li>• Histology: functional structure of tissues</li><li>• Plant organs</li><li>• Reproduction, growth and principles of heredity</li></ul>
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- Pregled sistema višjih rastlin

- Survey of the system of lower plants
- Survey of the system of higher plants

### Temeljni literatura in viri / Readings:

- Bresinsky, A., Körner, C., Kadereit, J.W., Neuhaus, G., Sonnewald, U., 2013: Strasburger's Plant Sciences. Springer Verlag.
  - Mauseth, J. D., 2016: Botany. An introduction to Plant Biology. Jones and Bartlett Publishers, Massachusetts.
  - Raven, P. H., Evert, R. F., Eichhorn, S. E., 1912: Biology of Plants. W. H. Freeman and company Worth Publishers. 8th edition.
  - Sitte, P., Weiler, E. W., Kadereit, J. W., Bresinsky, A., Körner, C., 2002: Lehrbuch der Botanik. 35. Auflage. Spektrum Akademischer verlag Heidelberg, Berlin.
- ŠAJNA, Nina, ŠIPEK, Mirjana, ŠUŠTAR VOZLIČ, Jelka, KALIGARIČ, Mitja. Germination behavior of the extremely rare *Hladnikia pastinacifolia* Rchb. (Apiaceae) - a Pleistocene in situ survivor. *Acta botanica Croatica : an international journal of botany*. 2019, vol. 78, no. 2, str. 107-115, ilustr. ISSN 0365-0588. DOI: [10.2478/botcro-2019-0017](https://doi.org/10.2478/botcro-2019-0017). [COBISS.SI-ID 24787720], [JCR, SNIP, WoS, Scopus] kategorija: 1A3 (Z); uvrstitev: SCIE, Scopus, MBP (ASFA, BIOABS, BIOPREW, CAB, MABC, PUBMED, ZR); tip dela je verificiral OSICB

### Cilji in kompetence:

- Poznati kemično zgradbo rastlin
- Razumeti funkcionalno strukturo celice
- Razumeti delitev celice
- Razumeti strukturo in funkcijo tkiv in organov
- Razumevanje razmnoževanja, rasti in osnov dedovanja
- Poznati pregled in razmnoževalne cikle nižjih rastlin
- Poznati pregled in razmnoževalne cikle višjih rastlin

### Objectives and competences:

- To learn the chemical structure of plants
- To understand the structure and functioning of cell
- To understand the cell division
- To understand the structure and functioning of tissues and organs
- To understand the reproduction, growth and principles of heredity
- To learn the plant system of lower plants and their life cycles
- To learn the plant system of higher plants and their life cycles

### Predvideni študijski rezultati:

#### Znanje in razumevanje:

- Študent dobi vpogled v osnovno razumevanje zgradbe in delovanja rastlinske celice, tkiv in organov.
- Študent se seznani s povezanostjo med strukturo in funkcijo in biotsko pestrostjo.
- Pozna filogenijo in raznolikost rastlinskega sveta

Prenesljive/ključne spretnosti in drugi atributi:

### Intended learning outcomes:

#### Knowledge and understanding:

- Student should get an overview and basic understanding of plant cell, tissues and organs.
- Student should link the structure and function with biodiversity.
- Student should understand the plant phylogeny and get an overview into plant diversity

Transferable/Key Skills and other attributes:

- Študent osvoji nekaj glavnih metod in pridobi prakso v prepoznavanju in delovanju celic, tkiv in organov rastlinskih organizmov
- Študent prepozna glavne skupine rastlinskih organizmov.

- Student capture the most important methods and practices in recognition and functioning of plant cells, tissues and organs.
- Student can recognise the key groups of plant organisms.

#### Metode poučevanja in učenja:

#### Learning and teaching methods:

Predavanja  
Seminar  
Terenske vaje  
Laboratorijske vaje

Lectures  
Seminar work  
Field work  
Laboratory work

Delež (v %) /

#### Načini ocenjevanja:

Weight (in %)

#### Assessment:

Seminarska naloga in zagovor iz laboratorijskih in terenskih vaj.  
Pisni izpit.

50  
50

Seminar essay and discussion on laboratory and field exercises.  
Written exam.

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

ŠAJNA, Nina, ŠIPEK, Mirjana, ŠUŠTAR VOZLIČ, Jelka, KALIGARIČ, Mitja. Germination behavior of the extremely rare *Hladnikia pastinacifolia* Rchb. (Apiaceae) - a Pleistocene in situ survivor. *Acta botanica Croatica : an international journal of botany*. 2019, vol. 78, no. 2, str. 107-115, ilustr. ISSN 0365-0588. DOI: [10.2478/botcro-2019-0017](https://doi.org/10.2478/botcro-2019-0017). [COBISS.SI-ID [24787720](#)], [JCR, SNIP, WoS, Scopus] kategorija: 1A3 (Z); uvrstitev: SCIE, Scopus, MBP (ASFA, BIOABS, BIOPREW, CAB, MABC, PUBMED, ZR); tip dela je verificiral OSICB

PAUŠIČ, Igor, LIPOVŠEK, Matej, JAKELY, Dietmar, PAVLEC, Nika, IVAJNŠIČ, Danijel, KALIGARIČ, Mitja. Local climate and latitude affect flower form of *Ophrys fuciflora* (Orchidaceae) : evidence for clinal variation. *Botany Letters*. 2019, vol. 166, iss. 4, str. 499-512, ilustr. ISSN 2381-8107. DOI: [10.1080/23818107.2019.1668298](https://doi.org/10.1080/23818107.2019.1668298). [COBISS.SI-ID [24827400](#)], [JCR, SNIP, WoS do 23. 4. 2023: št. citatov (TC): 6, čistih citatov (CI): 5, čistih citatov na avtorja (CIAu): 0,83, Scopus do 7. 5. 2023: št. citatov (TC): 7, čistih citatov (CI): 6, čistih citatov na avtorja (CIAu): 1,00] kategorija: 1A3 (Z); uvrstitev: SCIE, Scopus, MBP (BIOABS, BIOPREW, CAB, PUBMED);

Eno referenco nadomeščam s projektom nad 35.000: [HABIT-CHANGE | Fakulteta za naravoslovje in matematiko \(um.si\)](#)