



Univerza v Mariboru



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Fakulteta za naravoslovje in  
matematiko

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

<b>Predmet:</b>	Biologija rastlin
<b>Course title:</b>	Biology of Plants

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Biologija in ekologija z naravovarstvom, 2. stopnja	/	1	1
Biology and Ecology with Nature Conservation, 2 <sup>nd</sup> Level	/	1	1

**Vrsta predmeta / Course type** Obvezni / obligatory

**Univerzitetna koda predmeta / University course code:**

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
30	15	-	30		105	6

**Nosilec predmeta / Lecturer:** Sonja ŠKORNIK

**Jeziki / Languages:**

<b>Predavanja / Lectures:</b>	Slovenski/Slovenian
<b>Vaje / Tutorial:</b>	Slovenski/Slovenian

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

**Jih ni**

**No.**

**Vsebina:**

1. Citologija: povezava strukture in funkcije
2. Histologija: funkcionalna struktura tkiv skozi filogenetski razvoj rastlin
3. razvoj rastlinskih organov
4. Spolno razmnoževanje in njegove osnove skozi filogenetski razvoj rastlin.
5. Ponoviti pregled nad sistemom nižjih in višjih rastlin v luči njihovega filogenetskega razvoja
6. Primerno predstaviti najbolj znane predstavnike, posebej iz flore Slovenije.

**Content (Syllabus outline):**

1. Cytology: structure and function connected.
2. Histology: functional structure of tissues through the phylogeny of plants
3. Plant organs development through the evolution.
4. Reproduction and its principles through the phylogeny of plants.
5. Recapitulation of the survey of plant system (both lower and higher plants) in the light of their phylogeny.
6. Representation of most characteristic species, especially from the flora of Slovenia.

**Temeljni literatura in viri / Readings:**

- Heywood, V., 1995: Cvetnice. Kritosemenke sveta. DZ, Ljubljana.
- Martinčič, A. (ed.), 2007: Mala flora Slovenije. Tehniška založba, Ljubljana.
- Mauseth, J. D., 2003: Botany. An introduction to Plant Biology. Jones and Bartlett Publishers, Massachusetts.
- Raven, P. H., R. F. Evert, S. E. Eichhorn, 1999: Biology of Plants. W.H. Freeman and company Worth Publishers.
- Simpson M.G., 2006: Plant systematics, Elsevier Academic Press.
- Sitte, P., E. W. Weiler, J.W. Kadereit, A. Bresinsky, C. Körner, 2002: Lehrbuch der Botanik. Auflage. Spektrum Akademischer Verlag Heidelberg, Berlin.

**Cilji in kompetence:**

1. Razumeti funkcionalno strukturo celice
2. Razumeti strukturo in funkcijo tkiv in organov v luči filogenije rastlin
3. Razumeti razvoj organov skozi evolucijo
4. Razumeti bistvo in načine spolnega razmnoževanja skozi filogenetski razvoj rastlin.
5. Poznati rastlinsko sistematiko, posebej še v luči filogenetskega razvoja.

**Objectives and competences:**

1. To understand the structure and functioning of cell.
2. To understand the structure and functioning of tissues in the light of plant phylogeny.
3. To understand the development of plant organs through the evolution
4. To understand the principles and diversity of reproduction through the phylogeny of plants
5. To learn plant systematics, especially in the light of their phylogeny.

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

Znanje in razumevanje:

- Študent nadgradi vpogled v osnovno razumevanje zgradbe in delovanja rastlinske celice, tkiv in organov in sicer iz filogenetskega vidika.
- Razume povezanost med strukturo in funkcijo ter raznolikostjo rastlin .

Prenesljive/ključne spretnosti in drugi atributi:

- Študent usvoji nekaj glavnih metod in pridobi prakso v prepoznavanju in delovanju celic, tkiv in organov rastlinskih organizmov.

Knowledge and understanding:

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

Transferable/Key Skills and other attributes:

- Student capture the most important methods and practices in recognition and functioning of plant cells, tissues and organs.

**Metode poučevanja in učenja:**

- Predavanja
- Seminarji
- Laboratorijske vaje

**Learning and teaching methods:**

- Lectures
- Seminars
- Laboratory exercises

**Načini ocenjevanja:**

Način (pisni izpit, ustno izpraševanje, naloge, projekt)

- Seminarska naloga in predstavitev
- Pisni izpit
- Praktični kolokvij iz vaj

Delež (v %) /

Weight (in %)

20%

40%

40%

**Assessment:**

Type (examination, oral, coursework, project):

- Seminar essay and its presentation
- Written examination
- Written practical examinations

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

ŠKORNIK, Sonja, VIDRIH, Matej, KALIGARIČ, Mitja. The effect of grazing pressure on species richness, composition and productivity

in North Adriatic Karst pastures. *Plant Biosyst. (Firenze, Testo stamp.)*, 2010, vol. 144, no. 2, str. 355-364.

MASON, Norman W. H., PIPENBAHER, Nataša, ŠKORNIK, Sonja, KALIGARIČ, Mitja. Does complementarity in leaf phenology and inclination promote co-existence in a species-rich meadow? : evidence from functional groups. *J. veg. sci.*, Article first published online: 1 AUG 2012, doi: [10.1111/j.1654-1103.2012.01451.x](https://doi.org/10.1111/j.1654-1103.2012.01451.x).

ŠKORNIK, Sonja, HARTMAN, Klavdija, KALIGARIČ, Mitja. Relation between CSR functional signatures of dry grasslands from two contrasting geological substrates = Relazione tra sigle funzionali CSR di pascoli aridi su due substrati geologici contrastanti. *Ann, Ser. hist. nat.*, 2010, vol. 20, št. 2, str. 101-112.

ŠKORNIK, Sonja, ŠAJNA, Nina, KRAMBERGER, Branko, KALIGARIČ, Simona, KALIGARIČ, Mitja. Last remnants of riparian wooded meadows along the middle Drava River (Slovenia) : species composition is a response to light conditions and management. *Folia geobot.*, dec. 2008, vol. 43, no. 4, str. 431-445.

PIPENBAHER, Nataša, KALIGARIČ, Mitja, ŠKORNIK, Sonja. Functional comparison of the sub-Mediterranean illyrian meadows from two distinctive geological substrates = Confronto funzionale di praterie sub-mediterranee illiriche di due substrati geologici distinti = Funkcionalna primerjava submediteranskih ilirskih travnikov z dveh različnih geoloških podlag. *Ann, Ser. hist. nat.*, 2008, letn. 18, št. 2, str. 247-258.

PIPENBAHER, Nataša, KALIGARIČ, Mitja, ŠKORNIK, Sonja. Floristic and functional comparison of karst pastures and karst meadows from the North Adriatic Karst = Floristična in funkcionalna primerjava kraških pašnikov in kraških travnikov severnojadranskega Krasa. *Acta carsol.*, 2011, letn. 40, št. 3, str. 515-525.

KALIGARIČ, Mitja, MEISTER, Margit H., ŠKORNIK, Sonja, ŠAJNA, Nina, KRAMBERGER, Branko, BOLHÁR-NORDENKAMPF, Harald R. Grassland succession is mediated by umbelliferous colonizers showing allelopathic potential. *PlantBiosyst. (Firenze, Testo stamp.)*, 2011, vol. 145, no. 3, str. 688-698.