

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

<b>Predmet:</b>	BIODIVERZITETA IN GLOBALNE SPREMEMBE
<b>Course title:</b>	BIODIVERSITY AND GLOBAL CHANGES

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Okoljske in regionalne študije, doktorski študij 3. stopnje	Skupni		
Environmental and Regional Studies, doctoral study 3 <sup>rd</sup> level	common		

**Vrsta predmeta / Course type** Izbirni / Elective

**Univerzitetna koda predmeta / University course code:** DI011

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
<b>30</b>	<b>15</b>			<b>15</b>	<b>120</b>	<b>6</b>

**Nosilec predmeta / Lecturer:** Izr. prof. dr. Urban Šilc

**Jeziki / Languages:**  
**Predavanja / Lectures:** slovenščina, angleščina / Slovene, English  
**Vaje / Tutorial:** slovenščina, angleščina / Slovene, English

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

Opravljena prva stopnja študija biologije ali ekvivalentne smeri.

**Prerequisite:**

Finished bachelor's degree in Biology or equivalent program of study.

**Vsebina:**

- Globalni vzorci biotske pestrosti
- Merjenje vrstne pestrosti
- Genska diverziteta
- Ekosistemi
- Klimatska variabilnost, klimatske spremembe in efekt tople grede
- Biotska ranljivost, odgovor in adaptacije na klimatske spremembe
- Vpliv klimatskih sprememb v prihodnosti

**Content (Syllabus outline):**

- Global patterns of biodiversity
- Measuring species diversity
- Genetic diversity
- Ecosystems
- Climate variability, climate change and the greenhouse effects
- Biotic vulnerability, response and adaptations to climate change
- Future impact of climate change

**Temeljni literatura in viri / Readings:**

- Rosenzweig M.L. (1995). *Species diversity in space and time*. Cambridge University Press.
- Lovejoy T. E., Hannah L. J. (2005). *Climate Change and Biodiversity*. Yale University Press.

**Cilji in kompetence:**

**Objectives and competences:**

S tem predmetom se bodo študenti seznanili z globalnimi vzorci diverzitete in njenim merjenjem na več ravneh, od genetske do ekosistemske. Študenti bodo razumeli mehanizme, ki ustvarjajo biodiverzitetu in kako klimatske spremembe vplivajo na te mehanizme danes in v prihodnosti. Študenti se bodo seznanili s podnebjem in razumeli efekt tople grede, spoznali že opažen vpliv nedavnih klimatskih sprememb in napovedi za njihov vpliv v prihodnosti. Spoznali bodo tudi moderne pristope v napovedovanju prihodnjih globalnih sprememb.

Through the course, students will be familiarized with the global patterns of biodiversity and its measurement, from the genetic to ecosystem level. Students will understand the mechanisms that generate biodiversity and how these mechanisms are affected by climate change today and in the future. The course will explain the climate system and the greenhouse effect, the observed impact of recent climate changes, future projections of the impact of climate change, and modern approaches for predicting future global changes.

**Predvideni študijski rezultati:**

- Razumevanje kako se spreminja vrstna diverzitetu in diverzitetu združb v odvisnosti od časa in prostora in kako jo meriti.
- Študenti bodo razumeli kako se biota odziva na globalne spremembe: kakšni so odzivi posameznih vrst in kako se spreminjajo celotne združbe in ekosistemi.
- Študenti bodo pridobili vpogled v moderne pristope v raziskovanju vpliva klimatskih sprememb.

**Intended learning outcomes:**

- Understanding how diversity of species and communities is changing in space and time and how to measure it.
- Students will understand how biota responds to climate change: what is the response of single species and how whole communities and ecosystems are affected.
- Students will gain insight into modern trends in climate change research.

**Metode poučevanja in učenja:**

- Predavanja
- Seminar
- e-učenje

**Learning and teaching methods:**

- Lectures
- Seminars
- e-learning

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"> <li>• Seminar</li> <li>• Izpit</li> </ul>	20	<ul style="list-style-type: none"> <li>• Seminar</li> </ul>
	80	<ul style="list-style-type: none"> <li>• Exam</li> </ul>

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

1. Šilc, U., Ačić, S., Škvorc, Ž., Krstonošić, D., Franjić, J., & Dajić Stevanović, Z. (2014). Grassland vegetation of the Molinio-Arrhenatheretea class in the NW Balkan Peninsula. Applied vegetation science, 17(3), 591-603.
2. Marinšek, A., Šilc, U., & Čarni, A. (2013). Geographical and ecological differentiation of Fagus forest vegetation in SE Europe. Applied Vegetation Science, 16(1), 131-147.
3. Šilc, U., Vrbničanin, S., Božić, D., Čarni, A., & Stevanović, Z. D. (2009). Weed vegetation in the north-western Balkans: diversity and species composition. Weed Research, 49(6), 602-612.
4. Šilc, U., & Čarni, A. (2005). Changes in weed vegetation on extensively managed fields of central Slovenia between 1939 and 2002. Biologia, 60, 4, 409-416.

5. Šilc, U., Vreš B., Čelik T., Gregorič M. (2020). Biodiversity of Slovenia. The Geography of Slovenia. Springer, pp. 109-124.
6. Šilc, U., Stešević D., Luković M., Čaković D. (2020). Changes of a sand dune system and vegetation between 1950 and 2015 on Velika plaža (Montenegro, E Mediterranean). Regional Studies in Marine Science 35, 101139.