



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

**Predmet:** Paleogeografija  
**Course title:** Paleogeography

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Univerzitetni študijski program Biologija, 1. stopnja		2.	3.
Undergraduate university programme Biology, 1st degree		2 <sup>nd</sup>	3 <sup>rd</sup>

**Vrsta predmeta / Course type**

Obvezni/Obligatory

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

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Lab. work	Druge oblike študija	Samost. delo Individ. work	ECTS
20	10	15			75	4

**Nosilec predmeta / Lecturer:**

Danijel Ivajnšič

**Jeziki /  
Languages:**

**Predavanja /  
Lectures:** Slovenski/Slovenian  
**Vaje / Tutorial:** Slovenski/Slovenian

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

Ni pogojev.

**Prerequisites:**

No requirements.

**Vsebina:**

**Content (Syllabus outline):**

<ul style="list-style-type: none"> <li>• Nastanek in zgradba Zemlje</li> <li>• Kamninski krog</li> <li>• Geotektonika - tektonika plošč</li> <li>• Geodinamika - endodinamika in eksodinamika</li> <li>• Nastanek in lastnosti atmosfere</li> <li>• Paleoklimatologija – ledene in medledene dobe</li> <li>• Paleookolja</li> <li>• Razvoj površja Slovenije – geološka zgradba in tektonika</li> <li>• Baze paleogeografskih prostorskih podatkov</li> </ul>	<ul style="list-style-type: none"> <li>• The origin and structure of the Earth</li> <li>• The rock cycle</li> <li>• Plate tectonics</li> <li>• Geodynamics – endodynamics and exodynamics</li> <li>• The formation and properties of the atmosphere</li> <li>• Paleoclimatology – ice age cycles</li> <li>• Paleo-environments</li> <li>• The geological development and structure of the Slovenian territory</li> <li>• Spatial databases of paleogeographic data</li> </ul>
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### Temeljni literatura in viri / Readings:

#### OBVEZNA LITERATURA/ OBLIGATORY READINGS:

- Huc, AY. (1995). Paleogeography, Paleoclimate & Source Rocks (AAPG Studies in Geology) (Aapg Studies in Geology). American Association of Petroleum Geologists, ISBN: 089181048X, 9780891810483
- Tarbuck, EJ. (2016). Earth: an introduction to physical geology. Pearson, ISBN: 9781292161839 (izbrana poglavja)
- Saltzman, B. (eds.). (2002). Dynamical paleoclimatology: Generalized theory of global climate change. Academic Press (izbrana poglavja).

#### PRIPOROČENA LITERATURA/FACULTATIVE READINGS:

- Pavšič, J. (2003). Paleontologija. Naravoslovnotehniška fakulteta, Univerza v Ljubljani (izbrana poglavja).
- Pavšič, J. (1995) Fosili. Tehniška založba Slovenije, Maribor (izbrana poglavja).
- Pavšič, J. (1999) Osnove geologije. Filozofska fakulteta, Univerza v Ljubljani (izbrana poglavja).

### Cilji in kompetence:

<ul style="list-style-type: none"> <li>• študentje pojasnijo nastanek in zgradbo Zemlje</li> <li>• študentje prepoznajo temeljne kamnine in opišejo njihove lastnosti ter razložijo njihov nastanek</li> <li>• študentje pojasnijo dinamiko premikanja tektonskih plošč in analizirajo posledice tega procesa</li> <li>• študentje pojasnijo nastanek in zgradbo atmosfere</li> <li>• študentje opišejo vzroke za spreminjanje podnebja in povežejo le-te z eksodinamiko planeta</li> </ul>
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### Objectives and competences:

<ul style="list-style-type: none"> <li>• students explain the origin and structure of the Earth</li> <li>• students identify the basic rocks and describe their properties and explain their formation</li> <li>• students explain the dynamics of plate tectonics and analyze the consequences of this process</li> <li>• students explain the formation and structure of the atmosphere</li> <li>• students describe the causes of climate change and connect them with the exodynamics of the planet</li> </ul>
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- študentje opišejo in primerjajo okoljske razmere v različnih geoloških fazah
- študentje povežejo pretekle okoljske razmere z fosilnimi najdbami flore in favne
- študentje opišejo in razložijo nastanek površja Slovenije
- študentje analizirajo prostorsko razporeditev kamnin v Sloveniji

- students describe and compare environmental conditions in different geological phases
- students associate past environmental conditions with fossil finds of flora and fauna
- students describe and explain the formation of Earth's crust in the area of Slovenia
- students analyze the spatial distribution of rocks in Slovenia

### **Predvideni študijski rezultati:**

#### **Znanje in razumevanje:**

- študentje povezujejo geološke, geografske, biološke in ekološke vsebine vezane na procese, ki preoblikujejo Zemljino površje in vplivajo na litosfero, hidrosfero, atmosfero in biosfero.
- študentje prepoznajo in, po nastanku, lastnostih in geografski razporeditvi, primerjajo različne tipe kamnin tako v globalnem kot v lokalnem merilu (Slovenija)
- študentje analizirajo vzroke za podnebne spremembe in povezujejo le-te z geografsko razporeditvijo organizmov v različnih geoloških obdobjih

#### **Prenesljive/ključne spretnosti in drugi atributi:**

- študentje razpravljajo, kako različni procesi, ki neprestano potekajo v zemljini notranjosti in na njeni površini, vplivajo na okolje in s tem na evolucijo vseh živih bitij.
- Študentje prepoznajo, primerjajo in razlikujejo najbolj razširjene vrste kamnin in nekatere njihove fizikalne lastnosti.
- Študentje opišejo različne metode pridobivanja in uporabo paleo-prostorskih podatkov

### **Intended learning outcomes:**

#### **Knowledge and Understanding:**

- students associate geological, geographical, biological and ecological contents related to processes, which transform the Earth's surface and influence the lithosphere, hydrosphere, atmosphere and biosphere.
- students identify and, after their formation, properties and geographical distribution, compare different types of rocks from the global to the local perspective (Slovenia)
- students analyze the causes of climate change and connect them with the geographical distribution of organisms in different geological periods

#### **Transferable / Key Skills and other attributes:**

- the students discuss how different processes that are constantly taking place in the earth's interior and on its surface affect the environment and thus the evolution of all living beings
- students identify, compare and distinguish the most common types of rocks and some of their physical properties
- students describe different methods of obtaining and usage of geospatial paleo-data

### **Metode poučevanja in učenja:**

### **Learning and teaching methods:**

<p>Predavanja</p> <ul style="list-style-type: none"> <li>• Seminar</li> <li>• Avdio-video predstavitve</li> <li>• Individualno delo</li> </ul>	<p>Lectures</p> <ul style="list-style-type: none"> <li>• Seminar</li> <li>• Audio-video presentations</li> <li>• Individual work</li> </ul>
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Delež (v %) /

**Načini ocenjevanja:**

Weight (in %)

**Assessment:**

<ul style="list-style-type: none"> <li>• Naloge v sklopu vaj</li> <li>• Pisni izpit</li> </ul> <p>Obe obveznosti morata biti pozitivno opravljene šele nato se upoštevajo uteži</p>	<p>30</p> <p>70</p>	<ul style="list-style-type: none"> <li>• Evaluation of tutorials</li> <li>• Written exam</li> </ul> <p>Both obligations must be positively evaluated and then the weights are taken into account</p>
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**Reference nosilca / Lecturer's references:**

<ul style="list-style-type: none"> <li>• KRYŠTUFEK, Boris, ZORENKO, Tanya, MAHMOUDI, Ahmad, BONTZORLOS, Vasileios A., ATANASOV, Nasko, IVAJNŠIČ, Danijel. Incipient road to extinction of a keystone herbivore in south-eastern Europe: Harting's vole (<i>Microtus hartingi</i>) under climate change. <i>Climatic change</i>, ISSN 0165-0009, 2018, vol. 149, iss. 3-4, str. 443-456, ilustr. <a href="https://link.springer.com/article/10.1007/s10584-018-2259-2">https://link.springer.com/article/10.1007/s10584-018-2259-2</a>, doi: <a href="https://doi.org/10.1007/s10584-018-2259-2">10.1007/s10584-018-2259-2</a>. [COBISS.SI-ID <a href="https://www.cobiss.si/id/1900277">1900277</a>]</li> <li>• KRYŠTUFEK, Boris, STANCIU, Cătălin-Răzvan, IVAJNŠIČ, Danijel, CHERKAOUI, Sidi Imad, JANŽEKOVIČ, Franc. Facts and misconceptions on the Palaeartic existence of the striped ground squirrel. <i>Mammalia : morphologie, biologie,systematique des mammiferes</i>. 2018, vol. 82, iss. 3, str. 248-255, ilustr. ISSN 0025-1461. DOI: <a href="https://doi.org/10.1515/mammalia-2017-0060">10.1515/mammalia-2017-0060</a>. [COBISS.SI-ID <a href="https://www.cobiss.si/id/23380744">23380744</a>]</li> <li>• IVAJNŠIČ, Danijel, DEVETAK, Dušan. GIS-based modelling reveals the fate of antlion habitats in the Deliblato Sands. <i>Scientific reports</i>. 2020, vol. 10, art. no. 5299, str. 1-9. ISSN 2045-2322. DOI: <a href="https://doi.org/10.1038/s41598-020-62305-3">10.1038/s41598-020-62305-3</a>. [COBISS.SI-ID <a href="https://www.cobiss.si/id/16499971">16499971</a>]</li> </ul>
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