



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 nd	3 rd

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):

• Nastanek in zgradba Zemlje • Kamninski krog • Geotektonika - tektonika plošč • Geodinamika - endodinamika in eksodinamika • Nastanek in lastnosti atmosfere • Paleoklimatologija – ledene in medledene dobe • Paleookolja • Razvoj površja Slovenije – geološka zgradba in tektonika • Baze paleogeografskih prostorskih podatkov	• The origin and structure of the Earth • The rock cycle • Plate tectonics • Geodynamics – endodynamics and exodynamics • The formation and properties of the atmosphere • Paleoclimatology – ice age cycles • Paleo-environments • The geological development and structure of the Slovenian territory • Spatial databases of paleogeographic data
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Temeljni literatura in viri / Readings:

OBVEZNA LITERATURA/ OBLIGATORY READINGS:

- Tarbuck, E. J., & Lutgens, F. K. (2002). Earth: an introduction to physical geology (7th ed., str. XVII, 670). Prentice Hall. (izbrana poglavja)
- Cronin, T. M. (2010). Paleoclimates: understanding climate change past and present (str. XVIII, 441). Columbia University Press.
- Ivajnsič, D., & Grujić, J. V. (2019). Paleogeografija: zbirka vaj. Fakulteta za naravoslovje in matematiko. <https://biologija.fnm.um.si/studij/studijska-gradiva/>

PRIPOROČENA LITERATURA/FACULTATIVE READINGS:

- Pleničar, M. (1981). *Osnove geologije* (str. 117). Fakulteta za naravoslovje in tehnologijo.
- Pavšič, J. (1995). Fosili: zanimive okamnine iz Slovenije (1. izd., str. 139). Tehniška založba Slovenije.

Cilji in kompetence:

- študentje pojasnijo nastanek in zgradbo Zemlje
- študentje prepoznajo temeljne kamnine in opišejo njihove lastnosti ter razložijo njihov nastanek
- študentje pojasnijo dinamiko premikanja tektonskih plošč in analizirajo posledice tega procesa
- študentje pojasnijo nastanek in zgradbo atmosfere
- študentje opišejo vzroke za spreminjanje podnebja in povežejo le-te z eksodinamiko planeta
- študentje opišejo in primerjajo okoljske razmere v različnih geoloških fazah

Objectives and competences:

- students explain the origin and structure of the Earth
- students identify the basic rocks and describe their properties and explain their formation
- students explain the dynamics of plate tectonics and analyze the consequences of this process
- students explain the formation and structure of the atmosphere
- students describe the causes of climate change and connect them with the exo-dynamics of the planet
- students describe and compare environmental conditions in different geological phases

- 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 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, lastnosti 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:

• Predavanja • Laboratorijsko delo	• Lectures • Laboratory work
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Delež (v %) / Weight (in %)		
Načini ocenjevanja:		Assessment:
• Seminarska naloga • Pisni izpit Obe obveznosti morata biti pozitivno opravljene šele nato se upoštevajo uteži	30 70	• Seminar paper • Written exam Both obligations must be positively evaluated and then the weights are taken into account

Reference nosilca / Lecturer's references:

Kryštufek, B., Al-Sheikhly, O. F., Lazaro, J., Haba, M. K., Hutterer, R., Mousavi, S. B., & Ivajnšič, D. (2021). A forgotten rodent from the Garden of Eden: what really happened to the long-tailed nesokia rat in the Mesopotamian marshes? *Mammalia*, 85(2), 103–108.
<https://dk.um.si/IzpisGradiva.php?id=88832>Ivajnsič, D., Škornik, I., Kaligarič, M., & Lipej, L. (2022). Vpliv podnebnih sprememb na gnezdenje obrežnih ptic = Climate change impact on seashore-breeding birds. V *Primeri prostorskih analiz vplivov podnebnih sprememb: monografija v okviru projekta Preprečevanje toplotnega stresa v urbanih sistemih v luči podnebnih sprememb (ARRS J7-1822)* (str. 123–159). Univerza v Mariboru, Univerzitetna založba.
<https://press.um.si/index.php/ump/catalog/view/681/968/2446-2>Ivajnsič, D., & Devetak, D. (2020). GIS-based modelling reveals the fate of antlion habitats in the Deliblato Sands. *Scientific reports*, 10(5299), 1–9. <https://dk.um.si/IzpisGradiva.php?id=90134>