



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 Ekologija z naravovarstvom, 1. stopnja		2.	3.
Undergraduate university programme Ecology with Nature Conservation, 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 Ivajnpič

**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:

- 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

Content (Syllabus outline):

- 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

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:

- 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

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

- študentje opišejo vzroke za spreminjanje podnebja in povežejo le-te z eksodinamiko planeta
- 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 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
- 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:

Predavanja • Seminar • Avdio-video predstavitve • Individualno delo
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Learning and teaching methods:

Lectures • Seminar • Audio-video presentations • Individual work

Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

• Naloge v sklopu vaj • Pisni izpit Obe obveznosti morata biti pozitivno opravljene šele nato se upoštevajo uteži	30 70	• Evaluation of tutorials • Written exam Both obligations must be positively evaluated and then the weights are taken into account
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Reference nosilca / Lecturer's references:

<ul style="list-style-type: none"> • 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. https://link.springer.com/article/10.1007/s10584-018-2259-2, doi: 10.1007/s10584-018-2259-2. [COBISS.SI-ID 1900277] • 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: 10.1515/mammalia-2017-0060. [COBISS.SI-ID 23380744] • 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: 10.1038/s41598-020-62305-3. [COBISS.SI-ID 16499971]
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