Podiplomskašola ZRCSAZU
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UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Načela oskrbe z geološkimi viri
Course title:	Geo-Resource Management Principles

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	4D Zemlja	/	/
Environmental and Regional Studies, doctoral study 3rd level	4D Earth	/	/

Vrsta predmeta / Course type	izbirni / elective
Univerzitetna koda predmeta / University course code:	DIZ03

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
30	5	5			140	6

Nosilec predmeta / Lecturer:	doc. dr. Gorazd Žibret (ostali izvajalci dr. Klemen Teran, dr. Neža Malenšek-Andolšek, dr. Duška Rokavec)

Jeziki / Languages:	**Predavanja / Lectures:**	Slovenian / English
	Vaje / Tutorial:	Slovenian / English

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Končana druga bolonjska stopnja ustrezne smeri ali univerzitetni študij VII stopnje	Second-cycle Bologna degree in the relevant track or a university (level VII) degree.

Vsebina:	**Content (Syllabus outline):**
• Uvod • Evropske politike in smernice • Gospodarski in socialno-ekonomski vidiki izkoriščanja mineralnih surovin • Krožno gospodarstvo • ZRud-1 in Državna rudarska strategija, prostorski in okoljski vidiki • Multiplikativni in sinergijski učinki pridobivanja mineralnih surovin • - Individualno delo (seminar) skladno s študentovo usmeritvijo	• Introduction • European policies and guidelines • Economic and socio-economic aspects of exploitation of mineral resources • Circular economy • ZRud-1 and the National Mining Strategy, spatial and environmental aspects • Multiplicative and synergistic effects of extracting mineral raw materials • - Individual work (seminar) in accordance with the student's background

Temeljni literatura in viri / Readings:

Izbrana poglavja iz knjig ter članki / Selected chapters from books and papers:

- Robb (2005) Introduction to ore-forming processes. Blackwell Publ. https://edisciplinas.usp.br/pluginfile.php/7567389/mod_folder/content/0/Robb%2C%20Laurence_Ore-forming%20processes.pdf?forcedownload=1
- Drovenik, Pleničar (1980) Nastanek rudišč v SR Sloveniji. Geologija. https://www.geologija-revija.si/index.php/geologija/article/view/1743/1800
- du Bray EA Eds. (1996) Preliminary Compilation of Descriptive Geoenvironmental Mineral Deposit Models. USGS Open-File Report 95–0831. https://pubs.usgs.gov/of/1995/ofr-95-0831/
- Marjoribanks, r. (2010) Geological Methods in Mineral Exploration and Mining. Springer Berlin https://doi.org/10.1007/978-3-540-74375-0
- Dill, H.G., (2010) The "chessboard" classification scheme of mineral deposits: Mineralogy and geology from aluminum to zirconium, Earth-Science Reviews 100,1–4, https://doi.org/10.1016/j.earscirev.2009.10.011
- Zakon o rudarstvu (ZRud-1) https://pisrs.si/pregledPredpisa?id=ZAKO5706
- CRM akt https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials/critical-raw-materials-act_en
- Državna rudarska strategija. https://www.gov.si/zbirke/projekti-in-programi/drzavna-rudarska-strategija/
- bilten Mineralne surovine, Geološki zavod Slovenije. http://www.geo-zs.si/index.php/za-javnost/publikacije2/periodi%C4%8Dne-publikacije/mineralne-surovine
- UN Framework Classification for Resources https://unece.org/climate-change/press/un-framework-classification-resources-will-be-instrumental-eu-critical-raw

Cilji in kompetence:

Študent oz. študentka pridobi poglobljena znanja o socio-ekonomskih, okoljskih, zakonodajnih in upravljavskih vidikih pridobivanja mineralnih surovin v Sloveniji in EU. Predvideno je, da študent oz. študentka obdela omenjene tematike mineralnih surovin iz področja njegove doktorske naloge.

Objectives and competences:

The student will acquire in-depth knowledge of socio-economic, environmental, legislative and management aspects of the mineral resource's extraction in Slovenia and the EU. The student shall also individually explore the topic of mineral raw materials supply from the perspective of his/her PhD thesis.

Predvideni študijski rezultati:

Študent oz. študentka zna izluščiti glavne aspekte in vplive pridobivanja mineralnih surovin na področje, ki ga obvlada. Pozna glavne kriterije za začetek pridobivanja, vključujoč prostorske, okoljske, geološke, sociološke in ekonomske faktorje in jih zna smiselno vključiti v širšo sliko razvoja družbe.

Intended learning outcomes:

The student can extract the main aspects of the mineral resource's extraction from the perspective they master. They know the main criteria for beginning of raw materials extraction, including spatial, environmental, geological, sociological and economic factors, and knows how to meaningfully integrate them into the wider picture of the development of society.

Metode poučevanja in učenja:

☒Predavanja
☒Terensko delo
☒Seminar
☒Individualne naloge
☒Konzultacije
☒e-izobraževanje

Learning and teaching methods:

☒Lectures
☒ Field work
☒Seminar
☒Independent work assignments
☒Consultations
☒e-Learning

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
seminarska naloga s predstavitvijo	100 %	written paper with presentation

Reference nosilca / Lecturer's references:

- ŽIBRET, Gorazd, LEMIERE, Bruno, MENDEZ, Ana-Maria, CORMIO, Carlo, SINNETT, Danielle, CLEALL, Peter, SZABÓ, Katalin, CARVALHO, Teresa. National mineral waste databases as an information source for assessing material recovery potential from mine waste, tailings and metallurgical waste. Minerals. 2020, vol. 10, no. 5, str. 1-20. DOI: 10.3390/min10050446.
- ŽIBRET, Gorazd, LEMIERE, Bruno, MENDEZ, Ana-Maria, CORMIO, Carlo, SINNETT, Danielle, CLEALL, Peter, SZABÓ, Katalin, CARVALHO, Teresa. National mineral waste databases as an information source for assessing material recovery potential from mine waste, tailings and metallurgical waste. Minerals. 2020, vol. 10, no. 5, str. 1-20. DOI: 10.3390/min10050446.
- ŽIBRET, Gorazd. Influences of coal mines, metallurgical plants, urbanization and lithology on the elemental composition of street dust. Environmental geochemistry and health. June 2019, vol. 41, no. 3, str. 1489-1505. DOI: 10.1007/s10653-018-0228-3.
- FIDANCHEVSKI, Emilija, ŠTER, Katarina, MRAK, Maruša, KLJAJEVIĆ, Ljiljana, ŽIBRET, Gorazd, TERAN, Klemen, POLETANOVIC, Bojan, FIDANCHEVSKA, Monika, DOLENEC, Sabina, MERTA, Ildikó. The valorisation of selected quarry and mine waste for sustainable cement production within the concept of circular economy. Sustainability. 2022, vol. 14, iss. 11, str. 1-16. DOI: 10.3390/su14116833.
- MALENŠEK ANDOLŠEK, Neža, MARKIČ, Miloš. Organic petrological characterisation and facies interpretation of the Upper Triassic (Carnian - Julian) black limestone in the Lesno Brdo area (External Dinarides, Central Slovenia). Marine and petroleum geology. [Print ed.]. 2021, vol. 128, 16 str. DOI: 10.1016/j.marpetgeo.2021.105056.
- RADUSINOVIĆ, Slobodan, ŠAJN, Robert, JOVANOVIĆ, Božica, ROKAVEC, Duška, HRIBERNIK, Katarina, ABRAMOVIĆ, Vasilije, DRAKSLER, Matej, DANILOVIĆ, Ivan, JOVANOVIĆ, Mia. The primary and secondary mineral resources of Montenegro and their mapping into the European data model. Geologia Croatica : a journal of the Institute of Geology Zagreb and Croatian Geological Society. 2022, vol. 75, spec. issue, str. 335–348.