## UČNI NAČRT PREDMETA / COURSE SYLLABUS

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| Predmet: | Arheologija krajine |
| Course title: | Landscape archaeology |

| Študijski program in stopnja<br>Study programme and level | Študijska smer<br>Study field | Letnik<br>Academic year | Semester<br>Semester |
|---|---|---|---|
| Primerjalni študij idej in kultur, doktorski študij 3. stopnje | Arheologija med Jadranom in Donavo | Brez letnika | / |
| Comparative Study of Ideas and Cultures, doctoral study 3rd cycle | Archaeology between the Adriatic and the Danube | Not specified | / |

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| Vrsta predmeta / Course type | splošno izbirni / general elective |

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| Univerzitetna koda predmeta / University course code: | P082 |

| Predavanja<br>Lectures | Seminar<br>Seminar | Vaje<br>Tutorial | Klinične vaje<br>work | Druge oblike<br>študija | Samost. delo<br>Individ. work | ECTS |
|---|---|---|---|---|---|---|
| 10 | | | | 20 | 150 | 6 |

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| Nosilec predmeta / Lecturer: | izr. prof. dr. Benjamin Štular |

| Jeziki /<br>Languages: | Predavanja / Lectures: | slovenščina, angleščina / Slovenian, English |
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| | Vaje / Tutorial: | / |

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

Za vključitev v delo ni posebnih pogojev. Priporočljivo je vsaj pasivno znanje nemškega, angleškega in italijanskega jezika.

**Prerequisits:**

There are no specific prerequisites. At least a passive knowledge of German, English, and Italian is recommended.

**Vsebina:**

- pregled zgodovine raziskav arheologije krajine
- teorija in metodologija arheologije krajine
- digitalne metode v arheologiji krajine
- delo s podatki laserskega skeniranja Slovenije in drugimi podatki daljinskega zaznavanja
- arheološka interpretacija v arheologiji krajine

**Content (Syllabus outline):**

- an overview of the history of landscape archaeology research
- theory and methodology of landscape archaeology
- digital methods in landscape archaeology
- working with airborne LiDAR and other remote sensing data
- archaeological interpretation of landscape data

**Temeljni literatura in viri / Readings:**

Teorija in metode
- Ashmore, W., Knapp, B. A. (ur.) 1999, Archaeologies of Landscape: Contemporary Perspectives. Malden, Oxford.
- Aston, M. 1985, Interpreting the Landscape: Landscape Archaeology and Local History. London, New York.

- Bender, B., Winer, M. (ur.) 2001, Contested Landscapes: Movement, Exile and Place. Oxford, New York.
- Chapman, H. 2006, Landscape Archaeology and GIS. Stroud.
- David, B., Thomas, J. (ur.) 2008, Handbook of Landscape Archaeology. Walnut Creek.
- Clark, J., Darlington, J., Fairclough, G. 2004, Using Historic Landscape Characterisation. English Heritage's review of HLC Applications 2002 – 03. London.
- Doneus, M. 2013, Die hinterlassene Landschaft. Prospektion und Interpretation in der Landschaftsarchäologie. Wien.
- Garmy, P. 2012, Villes, réseaux et systèmes de villes. Contribution de l'archéologie. Paris, Arles.
- Hooke, D. 1997, The Landscape of Anglo-Saxon England. London, New York.
- Howard, P. 2006, Archaeological Surveying and Mapping. Recording and depicting the landscape. London, New York.
- Kuna, M. 2004, Nedestruktivní archeologie. Teorie, metody a cíle. Plzen.
- Lodewijckx, M., Pelegrin, R. (ur.) 2011, A Wew from the Air: Aerial Archaeology and Remote Sensing Techniques. Results and opportunities. Oxford.
- Muir, R. 2004, Landscape Encyclopedia. Macclesfield.
- Olsen, B. 2002, Od predmeta do teksta. Beograd.
- Opitz, R. S., Cowley, D. C. (ur.) 2013, Interpreting Archaeological Topography. Airborne Laser Scanning, 3D Data and Ground Observation. Oxford.
- Parcak, S. H. 2009, Satellite remote sensing for archaeology. London, New York.
- Johnson, M. 2007, Ideas of Landscape. Malden, Oxford, Carlton.
- Sarris, A. (ur.) 2015, Best Practices of GeoInformatic Technologies for the Mapping of Archaeolandscapes. Oxford.
- Štular, B., Lozić, E. 2022, Airborne LiDAR data in landscape archaeology. An introduction for non-archaeologists. it - Information Technology 64(6), 247-260.
- Štular, B., Lozić, E., Eichert, S. 2023, Interpolation of airborne LiDAR data for archaeology. Journal of Archaeological Science: Reports 48, 103840.
- Tilley, C. 2004, The materiality of stone: explorations in landscape phenomenology 1. Oxford, New York.
- Trigger, B. G. 1967, Settlement Archaeology. Its Goals and Promise, American Antiquity 32 (2), 149-160.
- Ucko, P. J., Layton, R. (ur.) 1999, The Archaeology and Anthropology of Landscape: Shaping your landscape. London, New York.
- Wiseman, J., El-Baz, F. (ur.) 2007, Remote Sensing in Archaeology. New York.

Slovenija
- Badjura, R. 1953, Ljudska geografija: Terensko izrazoslovje. Ljubljana.
- Gams, I. 1974, Kras. Zgodovinski, naravoslovni in geografski oris. Ljubljana.
- Ilešič, S. 1950, Sistemi poljske razdelitve na Slovenskem. – SAZU, Ljubljana.
- Mlekuž, D. 2013, Skin Deep: LiDAR and Good Practice ofLandscape Archaeology. V: C. Corsi, B. Slapšak, F. Vermeulen (ur.), Good Practice in Archaeological Diagnostics. Non-invasive Survey of Complex Archaeological Sites, 113-131.
- Novaković, P. 2003, Osvajanje prostora: razvoj prostorske in krajinske arheologije. Ljubljana.
- Pleterski, A. 2011, Župa Bled. Nevidna srednjeveška Evropa. Ljubljana.
- Slapšak, B. 1995, Možnosti študija poselitve v arheologiji. Ljubljana.
- Štular, B. 2011, The use of lidar-derived relief models in archaeological topography. The Kobarid region (Slovenia) case study (Uporaba modelov reliefa pridobljenih z lidarskim snemanjem v

arheološki topografiji. Študijski primer Kobariške), Arheološki vestnik = Acta archaeologica 62, 393-432.

- Štular, B., Kokalj, Ž., Oštir, K., Nuninger, L. 2012, Visualization of lidar-derived relief models for detection of archaeological features, Journal of Archaeological Science 39 (11), 3354–3360.
- Štular, B., Lozić, E. 2016, Primernost podatkov projekta Lasersko skeniranje Slovenije za arheološko interpretacijo: metoda in študijski primer. V: R. Ciglič, M. Geršič, D. Perko, M. Zorn (ur.), Digitalni podatki, Ljubljana, 157-166.
- Štular, B. (ur./ed.) 2020, Srednjeveški Blejski otok v arheoloških virih = Medieval archaeology of Bled Island. Opera Instituti archaeologici Sloveniae 42, Ljubljana.

## Cilji in kompetence:

Raziskovanje prostora v arheologiji ima več stoletno zgodovino. Razvoju zadnjega pol stoletja lahko sledimo že po uporabi različnih izrazov: poselitvena arheologija, prostorska arheologija, naselbinska arheologija in arheologija krajin. Vsak izraz opisuje preplet teoretskih izhodišč in metodoloških orodij, ki skupaj tvorijo "šolo" oziroma arheološko prakso. V zadnjih desetletjih razvoj vede ne temelji več na teoretskih in metodoloških premikih temveč na tehnološkem razvoju.

Študenti in študentke predmeta Arheologija krajine bodo preučili najpomembnejše arheološke prakse raziskovanja prostora s poudarkom na relevantnih modernih metodah, ki jih obeležujeta predvsem digitalna arheologija in t. i. lidarski podatki (skupaj z ostalimi metodami daljinskega zaznavanja). Prva omogoča dostop in analizo ogromne količine raznorodnih podatkov. Lidarski podatki oziroma podatki zračnega laserskega skeniranja imajo potencial, da prinesejo količino novih arheoloških podatkov, ki je bila doslej nepredstavljiva.

Študenti in študentke bodo s študijem objav in predvsem s praktičnim delom z izbranimi metodami digitalne arheologije in/ali daljinskega zaznavanja pridobili kompetence za samostojno izvedbo arheološke analize v prostoru.

## Objectives and competences:

Archaeology's study of landscape has a history spanning several centuries. The evolution of the last fifty years can be traced through the use of various terms, including settlement archaeology, landscape archaeology, and spatial archaeology. Each term describes an interplay of theoretical starting points and methodological tools that, when combined, constitute a community of practise. In recent decades, the development of the field is no longer dependent on theoretical and methodological shifts, but rather on technological advancements.

Students in the Landscape Archaeology course will study the most significant archaeological practises, with a particular emphasis on relevant modern methods, including digital archaeology, airborne LiDAR data, and other remote sensing techniques. Access to and analysis of a vast quantity of heterogeneous data is enabled by the former. Lidar or airborne laser scanning data have the potential to produce an unprecedented amount of new archaeological information.

By studying the literature and, above all, by practically engaging with selected methods of landcsape archaeology, students will acquire the competences to independently carry out an landscape archaeology analysis.

## Predvideni študijski rezultati:

Predvideni študijski rezultat je samostojna pisna naloga v obliki znanstvenega članka.

## Intended learning outcomes:

Intended learning outcome is a written paper in the form of a scientific article.

| Metode poučevanja in učenja: | Learning and teaching methods: |
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| **Oblike dela:**<br>☒Samostojno delo študentov<br>☒ e-izobraževanje<br><br>**Metode (načini) dela:**<br>☒Razlaga<br>☒Razgovor/ diskusija/debata<br>☒Delo z besedilom<br>☒Proučevanje primera | **Types of learning/teaching:**<br>☒Independent students work<br>☒ e-learning<br><br>**Teaching methods:**<br>☒Explanation<br>☒Conversation/discussion/debate<br>☒Work with texts<br>☒Case studies |

| Načini ocenjevanja: | Delež (v %) /<br>Weight (in %) | Assessment: |
|---|---|---|
| Daljši pisni izdelki | 80 | Long written assignments |
| Javni nastop ali predstavitev | 20 | Presentations |

Reference nosilca / Lecturer's references:

- Kako in zakaj izboljšati dostopnost arheološkega LiDAR-ja (https://iza2.zrc-sazu.si/sl/dogodki/kako-in-zakaj-izboljsati-dostopnost-arheoloskega-lidar-ja). – 15. februar 2023, spletno predavanje, organizator Museum of London Archaeology v okviru raziskovalnega projekta TEtrARCHs, dostopno na spletni strani: https://www.tetrarchs.org/index.php/2023/01/28/february-2023-our-first-tetrarchs-seminar/.
- ŠTULAR, B., LOZIĆ E., EICHERT S. 2023, Interpolation of airborne LiDAR data for archaeology, Journal of Archaeological Science: Reports 48, p.p. 103840. https://doi.org/10.1016/j.jasrep.2023.103840
- ŠTULAR, Benjamin, LOZIĆ Edisa, Airborne LiDAR data in landscape archaeology. An introduction for non-archaeologists. – Journal it - Information Technology, july 2022.
- ŠTULAR, Benjamin 2022, Scientific Dissemination of Archaeological Interpretation of Airborne LiDAR-derived Data. – V: K. Gartski (ur.), Critical Archaeology in the Digital Age, Proceedings of the 12th IEMA Visiting Scholar Conference, Cotsen Digital Archaeology Series 2, 111–122.
- ŠTULAR, B., EICHERT S, LOZIĆ E., Airborne LiDAR Point Cloud Processing for Archaeology. Pipeline and QGIS Toolbox, Remote Sensing 13, no. 16: 3225. https://doi.org/10.3390/rs13163225
- ŠTULAR Benjamin, LOZIĆ Edisa, EICHERT Stefan, Airborne LiDAR-Derived Digital Elevation Model for Archaeology, Remote Sens. 2021, 13(9), 1855; https://doi.org/10.3390/rs13091855.