

UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet: Aplikativne metode pri varstvu naravne dediščine
Course title: Applied methods in protection of natural heritage

Študijski programi in stopnja	Študijska smer	Letnik	Semestri
Bioznanosti, tretja stopnja, doktorski	Ni členitve (študijski program)		Celoletni

Univerzitetna koda predmeta/University course code: 3848

Predavanja	Seminar	Vaje	Klinične vaje	Druge oblike študija	Samostojno delo	ECTS
20	30	10	0	0	190	10

Nosilec predmeta/Lecturer: Mojca Nastran

Vrsta predmeta/Course type: teoretični/theoretical

Jeziki/Languages:

Predavanja/Lectures:	Angleščina, Slovenščina
Vaje/Tutorial:	Angleščina, Slovenščina

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

Splošni pogoji za vpis na doktorski študij

Prerequisites:

General conditions for enrolment in doctoral studies

Vsebina:

Glede na svojo velikost je teritorij Slovenije izjemno raznolik v smislu biotske raznovrstnosti, tipov ekosistemov in geoloških formacij, kar skupaj predstavlja »naravno dediščino«. Poleg svoje inherentne vrednosti je naravna dediščina bistvenega pomena zaradi številnih družbenih in ekoloških dobrot, ki jih nudi družbi. Posledično se varstvu naravne dediščine posveča precejšnja pozornost, kar pa postaja vse težje izvedljivo zaradi rastočega vpliva človeštva, predvsem v obliki podnebnih sprememb, degradacije habitatov in invazivnih vrst. Za uspešno ohranjanje je ključno razumeti, kako tako naravni (ekološki in geološki) kot tudi antropogeni procesi vplivajo na naravno dediščino in oblikovati strategije upravljanja, ki ohranjajo oziroma ponovno vzpostavljajo zelene komponente naravne dediščine v našem hitro spreminjajočem se okolju. V ta namen predmet pokriva naslednje poglavitne teme:

- Sistem varstva narave v Sloveniji in svetu: zavarovana območja ter drugi neposredni in posredni pravni ukrepi
- Analize deležnikov pri varovanju naravne dediščine
- Pomen vključevanja deležnikov v ukrepe varstva narave

Content (Syllabus outline):

For its size, the territory of Slovenia is extraordinarily diverse in terms of biodiversity, ecosystem types, and geological formations, together referred to as "natural heritage". In addition to the innate value of natural heritage, it is essential for providing a variety of social and ecological services to society. Consequently, much emphasis is placed on conserving natural heritage, yet this is becoming increasingly difficult to achieve due to the growing influence of humanity, namely, from climate change, habitat degradation, and invasive species. A key to successful conservation is to understand how both natural (ecological and geological) and anthropogenic processes influence natural heritage and to design management strategies that either maintain or restore the desired components of natural heritage in our rapidly changing environment. To this end, the main themes covered in the class include:

- Nature protection system in Slovenia and worldwide: protected areas and other direct and indirect legal measures
- Stakeholder analysis in natural heritage conservation
- The importance of stakeholder involvement in nature conservation measures

<ul style="list-style-type: none"> • Interpretacija narave (možnosti, načini izbire najprimernejšega pristopa predstavitve narave ciljnim skupinam) in usmerjanje turizma • Ekologija motenj (t.j. kako procesi kot na primer sečnja, požiganje ali paša vplivajo na strukturo, sestavo in dinamiko vegetacije) • Metode kvantifikacije vzorcev in procesov v rastlinskih združbah • Metode v zgodovinski ekologiji • Znanost in praksa obnovitvene ekologije • Upoštevanje prostorske in časovne dimenzije (t.j. premik od posamičnih rastišč k pokrajinam in od let k desetletjem) • Povezava življenjskih značilnosti zaščitene vrste s habitatnimi značilnostmi in njihovo prostorsko in časovno dinamiko • Naravne in antropogene spremembe abiotičnih značilnosti (npr. prst, voda, geološke oblike, ceste, hidrološke strukture itd.) naravne dediščine • Upravljanje z invazivnimi vrstami • Dolgoročno upravljanje naravne dediščine v kontekstu podnebnih sprememb • Analiza interesa deležnikov za naravno dediščino • Metode komuniciranja pomena naravne dediščine v javnosti 	<ul style="list-style-type: none"> • Interpreting nature (options, ways of choosing the most appropriate approach to presenting nature to target groups) and directing tourism • Disturbance ecology (i.e. how do processes like forest harvesting, burning, or grazing influence vegetation structure, composition, and dynamics) • Methods for quantifying patterns and processes in plant communities • Methods in historical ecology • The science and practice of restoration ecology • Consideration of spatial and temporal scale (i.e. moving from individual sites to landscapes, and from years to decades) • Linking life history traits of protected species of interest with habitat characteristics and their dynamics in space and time • Natural and anthropogenic modification of abiotic features (i.e. soil, water, landforms, roads, hydrological constructions, etc) of natural heritage • Managing invasive species • Long-term management of natural heritage in the context of climate change • Analysis of stakeholder interests in natural heritage • Methods of communicating the importance of natural heritage with the public
--	---

Temeljna literatura in viri/Readings:

Berginc, Mladen, Kremesec Jevšenak, Jelka, Vidic, Jana. Sistem varstva narave v Sloveniji. [Ministrstvo za okolje in prostor](#), 2006.

Leung, Y. F., Spenceley, A., Hvenegaard, G., & Buckley, R. (2018). *Tourism and visitor management in protected areas: Guidelines for sustainability*. Gland: IUCN.

Restoration Ecology: The New Frontier. 2nd edition. Edited by J. Van Andel and J. Aronson.

Plant Succession: Theory and Prediction. D.C. Glenn-Lewin, R.K. Peet, T.T. Veblen.

Izbrane monografije (znanstveni priročniki) in znanstveni članki iz znanstvenih publikacij, ki pokrivajo kandidatovo raziskovalno področje.

Selected monographs and scientific papers related to the students field of research.

Cilji in kompetence:

Cilj je zagotoviti poglobljeno znanje z znanstvenega in upravljaljskega vidika z naravno dediščino. Predmet se osredotoča na biotsko in abiotično komponento naravne dediščine in poleg tega vsebuje tudi socialni vidik, saj so pri zavarovanju in upravljanju naravne dediščine vključeni številni deležniki oz. skupine. Predmet je tematsko naravnano tako, da se kar najbolje prilagodi tematiki študentove doktorske naloge. Predmet se osredotoča na metode za kvantifikacijo in implementacijo (vpeljavo) zaščite in obnove naravne dediščine v načrtih za upravljanje.

Objectives and competences:

The overall goal is to provide advanced knowledge on both scientific and management aspects of nature heritage. The class focuses on both biotic and abiotic components of natural heritage, and also includes a social science component due to the various stakeholder groups often involved with the protection and management of natural heritage. The class is individually tailored to the doctoral thesis of each student. All aspects of the class have a strong focus on methods to both quantify processes and implement conservation and restoration oriented management plans.

Predvideni študijski rezultati:

Znanje in razumevanje:

Študentje bodo zmožni: 1) razumeti in kvantificirati kako naravni in antropogeni procesi vplivajo na dano območje/predmet naravne dediščine, 2) oblikovati

Intended learning outcomes:

Knowledge and understanding:

Students will be able to 1) understand and quantify how natural and anthropogenic processes influence a given area/object of natural heritage; 2) design an effective

učinkovit upravljavski načrt, ki predvideva vzdrževanje ali obnovo zaščitene naravne vrednote in 3) oceniti interes različnih skupin deležnikov v povezavi z razglasitvijo, vzdrževanjem in obnovo naravne dediščine.	management plan that either maintains or restores the desired features under protection; and 3) assesses the interests of various stakeholder groups in the context of establishing, maintaining, or restoring natural heritage.
---	--

Metode poučevanja in učenja:	Learning and teaching methods:
Vsebina bo v veliki meri prilagojena kandidatovem zanimanju in temi doktorske naloge. Metode poučevanja vključujejo: <ul style="list-style-type: none"> • predavanja (izbrane tematike) in pripravo na seminar • konzultacije, terensko delo in vključitev v raziskovalne projekte 	The content will be in large part tailored to the individual research interests of the candidate. Teaching methods will include: <ul style="list-style-type: none"> • lectures (selected topics) and preparation of a guided seminar • consultation, field-work, and involvement in research projects

Načini ocenjevanja:	Delež/Weight	Assessment:
Končna ocena je povprečje: 1. seminarja (končni izdelek)	70,00 %	The final grade will be an average of: 1. the seminar (final paper)
2. končnega ustnega izpita	30,00 %	2. final oral exam

Reference nosilca/Lecturer's references:

Mojca Nastran

1. NASTRAN, Mojca. Why does nobody ask us? : Impacts on local perception of a protected area in designation, Slovenia. *Land use policy*, ISSN 0264-8377. [Print ed.], 2015, vol. 46, str. 38-49
2. NASTRAN, Mojca, ČERNIČ ISTENIČ, Majda. Who is for or against the park? Factors influencing the public's perception of a regional park: a Slovenian case study. *Human ecology review*, ISSN 1074-4827, 2015, vol. 21, no. 2, str. 93-111
3. NASTRAN, Mojca. Stakeholder analysis in a protected natural park : case study from Slovenia. *Journal of environmental planning and management*, ISSN 0964-0568, 2014, vol. 57, no. 9, str. 1359-1380
4. NASTRAN, Mojca, REGINA, Helena. Advancing urban ecosystem governance in Ljubljana. *Environmental science & policy*, ISSN 1462-9011, 2016, vol. 62, str. 344-353
5. VAN DER JAGT, Alexander, SMITH, Mike, AMBROSE-OJI, Bianca, KONIJNENDIJK, Cecil C., GIANNICO, Vincenzo, HAASE, Dagmar, LAFORTEZZA, Raffaele, NASTRAN, Mojca, PINTAR, Marina, ŽELEZNIKAR, Špela, CVEJIČ, Rozalija. Co-creating urban green infrastructure connecting people and nature: A guiding framework and approach. *Journal of environmental management*, ISSN 0301-4797, 2019, vol. 233, str. 757-767
6. NASTRAN, Mojca, KOBAL, Milan, ELER, Klemen. Urban heat islands in relation to green land use in European cities. *Urban Forestry and Urban Greening*, ISSN 1618-8667, Jan. 2019, vol. 37, str. 33-41
7. FISCHER, Leonie K., HONOLD, Jasmin, BOTZAT, Alexandra, BRINKMEYER, D., CVEJIČ, Rozalija, DELSHAMMAR, Tim, ELANDS, Birgit, HAASE, Dagmar, KABISCH, Nadja, KARLE, S. J., LAFORTEZZA, Raffaele, NASTRAN, Mojca, NIELSEN, Anders Busse, VAN DER JAGT, Alexander, VIERIKKO, K., KOWARIK, I. Recreational ecosystem services in European cities: Sociocultural and geographical contexts matter for park use. *Ecosystem services*, ISSN 2212-0416, 2018, vol. 31, part C, str. 455-467
8. FISCHER, Leonie K., HONOLD, Jasmin, CVEJIČ, Rozalija, DELSHAMMAR, Tim, HILBERT, Sven, LAFORTEZZA, Raffaele, NASTRAN, Mojca, NIELSEN, Anders Busse, PINTAR, Marina, VAN DER JAGT, Alexander, KOWARIK, Ingo. Beyond green: Broad support for biodiversity in multicultural European cities. *Global environmental change*, ISSN 0959-3780, 2018, vol. 49, str. 35-45.
9. CVEJIČ, Rozalija, ŽELEZNIKAR, Špela, NASTRAN, Mojca, REHBERGER, Vita, PINTAR, Marina. Urban agriculture as a tool for facilitated urban greening of sites in transition : a case study. *Urbani izziv*, ISSN 0353-6483. 2015, vol. 26, special issue, suppl., str. S84-S97
10. NASTRAN, Mojca, ŽIŽEK, Laura. (Ne)uskkljenost uradnih prostorskih evidenc pri ugotavljanju krčitve gozdov v Sloveniji = (In)consistency in the official spatial data in assessments of deforestation in Slovenia. *Geodetski vestnik : glasilo Zveze geodetov Slovenije*, ISSN 0351-0271. 2014, letn. 58, št. 4, 724-745

Thomas Andrew Nagel

1. NAGEL, Thomas Andrew, SVOBODA, Miroslav, KOBAL, Milan. Disturbance, life history traits, and dynamics in an old-growth forest landscape of southeastern Europe. *Ecological applications*, ISSN 1051-0761, 2013, vol. <v tisku>, no. <v tisku>, str. <v tisku>, ilustr. <http://dx.doi.org/10.1890/13-0632.1>, doi: [10.1890/13-0632.1](https://doi.org/10.1890/13-0632.1). [COBISS.SI-ID [3712934](https://www.cobiss.si/id/3712934)]

2. SVOBODA, Miroslav, NAGEL, Thomas Andrew, et al. Landscape-level variability in historical disturbance in primary *Picea abies* mountain forests of the Eastern Carpathians, Romania. *Journal of vegetation science*, ISSN 1100-9233, 2013, vol. 25, no. 2, str. 386-401, [COBISS.SI-ID [3685030](#)]
3. SVOBODA, Miroslav, JANDA, Pavel, NAGEL, Thomas Andrew, FRAVER, Shawn, REJZEK, Jan, BAČE, Radek. Disturbance history of an old-growth sub-alpine *Picea abies* stand in the Bohemian Forest, Czech Republic. *Journal of vegetation science*, ISSN 1100-9233, 2012, vol. 23, no. 1, str. 86-97, [COBISS.SI-ID [3207334](#)]
4. NAGEL, Thomas Andrew, SVOBODA, Miroslav, RUGANI, Tihomir, DIACI, Jurij. Gap regeneration and replacement patterns in an old-growth *Fagus-Abies* forest of Bosnia-Herzegovina. *Plant ecology*, ISSN 1385-0237, 2010, vol. 208, no. 2, str. 307-318, [COBISS.SI-ID [2499494](#)]
5. FIRM, Dejan, NAGEL, Thomas Andrew, DIACI, Jurij. Disturbance history and dynamics of an old-growth mixed species mountain forest in the Slovenian Alps. *Forest Ecology and Management*, ISSN 0378-1127. [Print ed.], 2009, vol. 257, no. 9, str. 1893-1901, [COBISS.SI-ID [2284966](#)]

UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Varovanje lokalnih elementov naravne dediščine v širšem evropskem kontekstu
Course title:	Conservation of local elements of natural heritage within wider European context

Študijski programi in stopnja	Študijska smer	Letnik	Semestri
Bioznanosti, tretja stopnja, doktorski	Ni členitve (študijski program)		Celoletni

Univerzitetna koda predmeta/University course code: 3849

Predavanja	Seminar	Vaje	Klinične vaje	Druge oblike študija	Samostojno delo	ECTS
10	0	0	0	25	90	5

Nosilec predmeta/Lecturer: Ivan Kos

Vrsta predmeta/Course type: teoretični/theoretical

Jeziki/Languages:	Predavanja/Lectures:	Angleščina, Slovenščina
	Vaje/Tutorial:	Angleščina, Slovenščina

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisites:
Splošni pogoji za vpis na doktorski študij	General conditions for enrolment in doctoral studies

Vsebina: Naravoslovna in družboslovna izhodišča elementov naravne dediščine. Vplivi lokalnih razmer. Različnost uspešnih ravnanj starih kultur Etični, zakonodajni in drugi vidiki pomembni za varstvo Lokalne, nacionalne in meddržavne regulative ravnanj z okoljem in varstvo naravne dediščine Pomen empiričnega znanja pri zagotavljanju lokalno optimiziranega upravljanja v večdržavnih skupnostih Primeri negativnih vplivov na varstvo naravne dediščine kot posledica homogenizacije zakonodaje Vključevanje lokalnih deležnikov v varovanje naravne dediščine	Content (Syllabus outline): Natural history and sociological conception of natural heritage elements. Influences of local specifics. Variety of successful management cases of old cultures Ethical, legislative, emotional and other aspects important for nature conservation Local, national and international legislation regarding environment and natural heritage conservation Role of science based knowledge in establishing local optimized management in trans-boundary integrations Cases of negative influences on natural heritage conservation due to homogenization of European legislation Involvement of local stakeholders into conservation of natural heritage
--	---

Temeljna literatura in viri/Readings: Naeem, S., Bunker, D. E., Hector, A., Loreau, M. & Perrings, C. (Eds) (2009). Biodiversity, Ecosystem Functioning, and Human Wellbeing : An Ecological and Economic Perspective. Oxford University Press, Oxford, ISBN-13: 978 0199547951 Menzies, C. R., (Eds.) (2006). Traditional Ecological Knowledge and Natural Resource Management. University of Nebraska Press., ISBN-13: 978 0803283190 revijalni članki s področja, tekoča periodika, domača in tuja zakonodaja, dogovori

Cilji in kompetence:

Objectives and competences:

<p>Pridobiti razumevanje o osnovah varstva elementov naravne dediščine kot sinteze naravoslovnih in družbenih zakonitosti</p> <p>Pridobiti kompetence vrednotenja učinkovitosti lokalnega, evropskega in globalnega ravnanja z konkretnimi elementi naravne dediščine</p> <p>Pridobiti kompetentnost za sodelovanje pri nastajanju domače in mednarodne zakonodaje in dogovorov</p> <p>Razvoj izkušenj pri sintezi različnega obstoječega znanja in ravnanj</p>	<p>To establish basic understanding on importance of synthesis of natural and social sciences as base of natural heritage conservation</p> <p>Acquire competences for evaluation of efficiency of local, European and global management with particular elements of natural heritage</p> <p>Acquire competences for participation in development of national and international legislation and agreements</p> <p>To make a progress in synthesis of different knowledge and management practices.</p>
---	---

<p>Predvideni študijski rezultati:</p> <p>Znanje in razumevanje:</p> <p>Razumeti izhodišča lokalnih posebnosti naravne dediščine</p> <p>Razumevanje pomena lokalnega ravnanja- nesovne kulturne dediščine pri varstvu elementov naravne dediščine</p> <p>Razumevanje pridobivanja lokalnega empiričnega znanja za razvoj ustreznega ravnanja v prostoru</p> <p>Poznavanje postopkov umeščanja spoznanj v nacionalne in evropske zakonodajne okvire</p>	<p>Intended learning outcomes:</p> <p>Knowledge and understanding:</p> <p>Understanding of background of local specifics of natural heritage</p> <p>Understanding of local specific treatment- intangible cultural heritage on conservation of elements of natural heritage</p> <p>Understanding of importance of local empiric based knowledge for development of local-specific management goals</p> <p>Knowledge of principles of positioning of local specifics into national and European legislation and rules.</p>
---	--

<p>Metode poučevanja in učenja:</p> <p>Aktivni razgovor, sinteza obstoječih informacij in kritična evalvacija obstoječih praks.</p>	<p>Learning and teaching methods:</p> <p>Lecture (selected contents), consultation, comparison and critical evaluation of actual legislation and implementation into practices</p>
--	---

Načini ocenjevanja:	Delež/Weight	Assessment:
Ocena seminarskega dela	75,00 %	Seminar grade
Predstavitev seminarskega dela	25,00 %	Presentation of a seminar work

<p>Reference nosilca/Lecturer's references:</p> <p>Ivan Kos</p> <p>KROFEL, Miha, HUBER, Đuro, KOS, Ivan. Diet of Eurasian lynx <i>Lynx lynx</i> in the northern Dinaric Mountains (Slovenia and Croatia) : importance of edible dormouse <i>Glis glis</i> as alternative prey. <i>Acta Theriologica</i>, ISSN 0001-7051, 2011, vol. 56, no. 4, str. 315-322. http://dx.doi.org/10.1007/s13364-011-0032-2, doi: 10.1007/s13364-011-0032-2. [COBISS.SI-ID 2355535]</p> <p>VAMBERGER, Melita, KOS, Ivan. First observations on some aspects on the natural history of European pond turtles <i>Emys orbicularis</i> in Slovenia. <i>Biologia</i>, ISSN 0006-3088, 2011, letn. 66, št. 1, str. 170-174, ilustr., doi: 10.2478/s11756-010-0138-z. [COBISS.SI-ID 27932377]</p> <p>KROFEL, Miha, SKRBINŠEK, Tomaž, KOS, Ivan. Use of GPS location clusters analysis to study predation, feeding, and maternal behavior of the Eurasian lynx. <i>Ecological research</i>, ISSN 0912-3814, 2013, vol. 28, no. 1, str. 103-116, doi: 10.1007/s11284-012-1005-x. [COBISS.SI-ID 2692943]</p> <p>KROFEL, Miha, SKRBINŠEK, Tomaž, KLJUN, Franc, POTOČNIK, Hubert, KOS, Ivan. The killing technique of Eurasian lynx. <i>Belgian journal of zoology</i>, ISSN 0777-6276, 2009, vol. 139, no. 1, str. 79-80, ilustr. [COBISS.SI-ID 26349785]</p>
--