UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	PROJEKTNO IN RAZISKOVALNO DELO
Course title:	PROJECT AND RESEARCH WORK

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Varstvo okolja in ekotehnologije, 2. stopnja	/	1.	/
Environmental Protection and Eco-technologies, 2nd level	/	1st	/

Vrsta predmeta / Course type	Obvezni predmet / Obligatory course
Univerzitetna koda predmeta / University course code:	PRD

Predavanja Lectures	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
30	30	/	/	120	**6**

Nosilec predmeta / Lecturer:	prof. dr. Boštjan Pokorny

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Po seznanitvi s teorijo projektnega dela študenti nadaljujejo s praktičnim delom, in sicer z obvezno vključitvijo v realne projekte, kar jim omogoči opravljeno obveznost znotraj individualnega dela.	After becoming familiar with the theory of project work, students continue with practical training by mandatory participation in real projects, which enables them to fulfill the course requirements through individual work.

Vsebina:

Predmet temelji na predstavitvi različnih vrst znanstveno-raziskovalnih in aplikativnih (strokovnih) projektov, projektnega in timskega dela. Podrobno so predstavljeni namen različnih projektov, cilji, metodologija, pričakovani rezultati in učinki ter metode diseminacije rezultatov. Predmet je namenjen pripravi študentov na samostojno projektno delo, vključno z diseminacijo rezultatov.

Poglavitne teme:

1. **Temeljne značilnosti projektnega dela**: vsebina, vloga vodje in članov projektne skupine.
2. **Temeljne značilnosti raziskovalnega dela**: osnovne raziskovalne metode, faze raziskovalnega dela, pomen znanstveno-raziskovalne dejavnosti.

Content (Syllabus outline):

The course is based on the presentation of different types of scientific-research and applied (professional) projects, as well as project work and team work. The purpose of various projects, their objectives, methodology, expected results and impacts, and methods for disseminating results are presented. The course is designed to prepare students for independent project work, including the dissemination of results.

Main topics:

1. **Fundamental characteristics of project work**: content, role of the project leader, and roles of project team members.
2. **Fundamental characteristics of research work**: basic research methods, phases of research work, and the importance of scientific-research activities.

3. **Oblike projektnega dela in njihove značilnosti**: bazične in aplikativne raziskave, mednarodni prpjekti, strokovne ekspertize, druge oblike projektnega sodelovanja.
4. **Pridobivanje in prijava projektov**: vrste razpisov, sestavljanje projektne skupine, struktura prijave, poudarki pri pisanju uspešne prijave, načrtovanje dela na projektu, finančni in terminski plan izvedbe projekta.
5. **Izvajanje projekta**: projektno delo in poročanje (izdelava faznih in zaključnih poročil; struktura poročila, pomen grafičnih in tabelaričnih predstavitev).
6. **Diseminacija oz. predstavitev rezultatov javnosti**: predavanja, delavnice, simpoziji in konference, objave v medijih in na socialnih omrežjih.
7. **Pisanje strokovnih in znanstvenih prispevkov**: namen, pristop, pomen.
8. **Pomen državljanske znanosti**: predstavitev koncepta, prednosti, pasti, primeri dobre prakse.

3. **Forms of project work and their characteristics**: basic and applied research, international projects, professional expert assessments, and other forms of project collaboration.
4. **Acquiring and applying for projects**: types of calls, assembling the project team, structure of the application, key points for writing a successful proposal, planning project activities, financial and timeline planning.
5. **Project implementation**: project work and reporting (preparation of interim and final reports; report structure, importance of graphical and tabular presentations).
6. **Dissemination and public presentation of results**: lectures, workshops, symposia and conferences, publications in media and on social networks.
7. **Writing professional and scientific contributions**: purpose, approach, and significance.
8. **Importance of citizen science**: presentation of the concept, advantages and pitfalls, and examples of good practice.

Temeljna literatura in viri / Textbooks:

Obvezna / Required:

1. Jambrek P. (ur.), 2020. Metodologija znanstvenega raziskovanja. Nova Gorica: Nova univerza, 269 str.
2. Karban R., Huntzinger M., Pearse I. S. 2023. How to Do Ecology: A concise handbook. Princeton: Princetin University Press, 208 str.
3. Študijsko gradivo, ki bo študentom posredovano v obliki izročkov.

Priporočena / Recommended:

1. Schimel J. 2011. Writing Science: How to Write Papers That Get Cited and Proposals That Get Funded. Oxford: Oxford University Press, 221 str.

Cilji in kompetence:

Predmetno specifični cilji in kompetence:

- Cilj je študente usposobiti za samostojno projektno/raziskovalno delo, še zlasti za: (i) spremljanje razpisov projektov in izbor aktualnih vsebin za prijavo; (ii) sodelovanje pri (raziskovalnih) projektih, njihovemu pridobivanju, načrtovanju dela, pridobivanju in obdelavi podatkov, analizi in sintezi ter interpretaciji rezultatov; (ii) diseminacijo rezultatov, vključno z javnimi predstavitvami in pisanjem znanstvenih prispevkov.
- Študentje pridobijo specifične kompetence: interdisciplinarno povezovanje projektnih oz. raziskovalnih vsebin, načrtovanje in organizacija projektnega dela, pridobivanje in obdelava podatkov, diseminacija projektnih rezultatov.

Objectives and competences:

Specific competences:

- The aim is to train students for independent project and research work, especially for: (i) checking project calls and selecting relevant and current topics for applications; (ii) participating in (research) projects, including acquiring projects, planning work, collecting and processing data, analysing and synthesizing information, and interpreting results; (iii) disseminating results, including public presentations and writing scientific contributions.
- Students acquire the following specific competencies: interdisciplinary integration of project and research topics, planning and organization of project work, data collection and processing, and dissemination of project results.

Splošne kompetence:	General competences:
• Sposobnost ustvarjalnega mišljenja, fleksibilne uporabe znanja v praksi in interdisciplinarnega povezovanje pridobljenih vsebin. • Sposobnost načrtovanja in organizacije (timskega) dela, (samo)kritičnega pristopa ter prilaganja novim situacijam. • Sposobnost analize, sinteze in obvladovanja raziskovalnih ter strokovnih metod/tehnik, vključno z diseminacijo rezultatov strokovni in splošni javnosti. • Strokovna komunikacija, ustno in pisno poročanje.	• Ability for creative thinking, flexible application of knowledge in practice, and interdisciplinary integration of obtained project content. • Ability to plan and organize (team-based) work, adopt a (self-)critical approach, and adapt to new situations. • Ability to analyse, synthesize, and apply research and professional methods and techniques, including the dissemination of results to both professional and general public. • Professional communication, including oral and written reporting.

Predvideni študijski rezultati:	Intended learning outcomes:
Znanje in razumevanje: Študent bo ob zaključku predmeta sposoben: • razlikovati različne tipe/vrste projektov (bazični, aplikativni, projekti za končne uporabnike itd.); • oblikovati predlog projekta oz. raziskave ter pripraviti enostavno projektno prijavo; • vključiti se v raziskovalni tim; • identificirati raziskovalni problem; in zastaviti raziskovalne cilje oz. hipoteze; • prepoznati in izbrati primerno raziskovalno metodologijo; • ustrezno interpretirati dobljene rezultate; • predstaviti projektne rezultate javnosti; • pripraviti osnutek znanstvenega članka. **Prenosljive/ključne spretnosti in drugi atributi:** • sposobnost uporabe domače in tuje literature, zbiranja in interpretiranja podatkov, identifikacije in iskanja rešitev za probleme; • sposobnost pisanja člankov in javnega predstavljanja rezultatov; • uporaba kompleksnih zbirk podatkov; • timsko delo.	**Knowledge and understanding:** At the end of the course, the student will be able to: • differentiate between various types of projects (basic, applied, end-user projects, etc.); • design a project or research proposal and prepare a simple project application; • participate effectively in a research team; • identify a research problem and formulate research objectives or hypotheses; • identify and select an appropriate research methodology; • interpret the results obtained appropriately; • present project results to the public; • prepare a draft of a scientific article. **Transferable/key skills and other attributes:** • ability to use Slovene and foreign literature, to collect and interpret data, to identify and look for solutions of problems; • ability to write manuscripts and to publicly present results obtained; • ability to use complex/comprehensive database; • team work.

Metode poučevanja in učenja:	Learning and teaching methods:
Oblike dela: • predavanja • samostojno delo študentov • seminarske vaje (priprava osnutka znanstvenega članka) • gostujoča predavanja usposobljenih strokovnjakov oz. izkušenih raziskovalcev **Metode dela:** • razlaga • dialog, diskusija	**Forms of teaching:** • in-class lectures • individual work of students • tutorials (preparation of the proposal for the scientific paper) • lectures delivered by invited experts and/or seasoned researchers **Teaching methods:** • explanation • discussion, debate

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
Končna ocena je sestavljena iz sodelovanja študenta na predavanjih, ocene projektnega predloga in ocene osnutka znanstvenega članka: • **sodelovanje študenta** • **ocena projektnega predloga** • **ocena osnutka znanstvenega članka** Ocenjevalna lestvica: ▪ zadostno 6: 60–67 % ▪ dobro 7: 68–75 % ▪ prav dobro 8: 76–83 % ▪ prav dobro 9: 84–90 % ▪ odlično 10: 91–100 %	**20** **30** **50**	The final grade consists of the student's proactivity during lectures, the evaluation of the project proposal, and the evaluation of the draft of scientific article: • **student's proactivity during lectures** • **project proposal grade** • **draft of scientific article grade** Grading scale: ▪ Sufficient D (6): 60–67% ▪ Good C (7): 68–75% ▪ Very good B (8): 76–83% ▪ Very good B+ (9): 84–90% ▪ Excellent A (10): 91–100%

Materialni pogoji za izvedbo predmeta :

- Predavalnica z multimedijsko opremo.
- Računalniška učilnica.

Material conditions for subject realization:

- Classroom with the multimedia equipment.
- Computer classroom.

Obveznosti študentov:

>80 % prisotnost na seminarskih vajah. Kot zaključek seminarskih vaj in uspešno opravljenega predmeta morajo študentje pripraviti osnutek: (i) projektnega predloga, (ii) (preglednega) znanstvenega članka na izbrano tematiko. Potrebna je izvirnost, jezikovna pravilnost in oblikovna doslednost predloženega izdelka.

Student's commitments:

>80% attendance at seminar sessions is required. As a conclusion of the seminar work and the course, students must prepare a draft of: (i) a project proposal; (ii) a (review) scientific article on a selected topic. The submitted work must demonstrate originality, linguistic accuracy, and consistency in formatting and presentation.

Reference nosilca predmeta:

Pedagoško delo:

- dekan Fakultete za varstvo okolja od leta 2013 naprej
- nosilec predmetov *Upravljanje s populacijami prostoživečih živali* in *Bioindikacija in biomonitoring* na VŠVO/FVO
- nosilec predmetov *Varstvo kopenskih ekosistemov, Biologija in varstvo velikih vretenčarjev, Okoljski monitoring* in *Ekotoksikologija* na Univerzi na Primorskem (FAMNIT)
- mentor trem mladim raziskovalkam z zaključenim doktoratom, mentor in somentor večjemu številu dodiplomskih in magistrskih študentov

Znanstveno-raziskovalno delo:

- vodja več deset projektov s področja varstva kopenskih ekosistemov, ekologije in varstva/upravljanja populacij prostoživečih živali (financerji: ARIS, MKGP, DARS, DRSI, TNP, LZS)
- organizator in predsedujoči znanstvenemu odboru večjega števila mednarodnih konferenc/simpozijev o varstvu in upravljanju vretenčarjev v kopenskih ekosistemih (Velenje, Ljubljana, Koper in Ankaran, 2007–2025)

Lecturer's references:

Pedagogic activities:

- Dean of the Faculty of Environmental Protection since 2013
- Holder of courses *Management of wildlife populations*, and *Bioindication and biomonitoring* at VŠVO/FVO
- Holder of courses *Protection of terrestrial ecosystems*, *Biology and conservation of large vertebrates*, *Environmental monitoring*, and *Ecotoxicology* at the University of Primorska (FAMNIT)
- Supervisor of three young researchers with defended Ph.D., and supervisor of several graduated and master students

Scientific and research work:

- Leader of several tenth projects on protection of terrestrial ecosystems, wildlife conservation/ecology and population management (funders: ARIS, MKGP, DARS; DRSI, TNP, LZS)
- Organizer and Head of the Scientific Committee at several international conferences/symposia on conservation and management of wildlife in terrestrial ecosystems (Velenje, Ljubljana, Koper, and Ankaran, 2007–2025)

Strokovno delo in izbrane strokovne publikacije:

- članstvo v več strokovnih komisijah za izboljšanje varstva in upravljanja populacij prostoživečih živali (ekspertna komisija za velike zveri MOP; komisija za izboljšanje upravljanja parkljaste divjadi MKGP; ekspertna komisija za Afriško prašičjo kugo pri MKGP; Strokovno-znanstveni svet in Komisija za upravljanje divjadi LZS)
- več kot 30 objavljenih strokovnih člankov s področja ekologije, varstva in upravljanja populacij prostoživečih živali
- več kot 50 intervjujev o ekologiji/varstvu/upravljanju prostoživečih živali v vodilnih slovenskih medijih in v mednarodnih medijih z velikim dometom
- vodenje večjega števila projektov s področja onesnaženosti in varstva okolja ter zmanjševanja tveganja za prostoživeče živali v kopenskih ekosistemih
- Bužan E., Bončina A., Duniš L., **Pokorny B**. 2020. Vzpostavitev raziskav ter genetskega monitoringa gamsa, alpskega kozoroga in muflona v Triglavskem narodnem parku za izboljšanje poznavanja stanja in ekološke povezanosti populacij. Velenje: Visoka šola za varstvo okolja, 25 str.
- Enetwild-Consortium, Vada R., Brož L., Citterio C., Obber F., Ferroglio E., Hahn N., Knauf S., O'mahony K., Platovšek Z., **Pokorny B.**, Sauter-Louis C., Staubach C., Zanet S., et al. 2025. A review of different methods to find and date wild boar carcasses in different countries. Parma: European Food Safety Authority, 86 str. DOI: 10.5281/zenodo.17591492.

Priznanja in nagrade:

- *Prometej znanosti* za odličnost v komuniciranju in za prenos znanstvenih spoznanj h končnim uporabnikom (2017)
- srebrna *Zlatorogova plaketa* za objavljene strokovne prispevke na področju varstva in upravljanja divjadi (2016)

Professional work and selected professional publications:

- Membership in several professional committees aimed to improve population management and conservation (Expert commission for large carnivores, MOP; Commission for improvement of ungulate management, MKGP; Expert Commission for ASF, MKGP; Scientific council and Commission for population management, LZS)
- More than 30 published professional/expert papers on wildlife ecology, conservation, and management
- More than 50 interviews about wildlife ecology / conservation / management in leading Slovene media, and in international media with a large coverage
- Coordination of several projects on environmental pollution and protection and on reducing risks for wildlife in terrestrial ecosystems
- Bužan E., Bončina A., Duniš L., **Pokorny B**. 2020. Establishment of research and genetic monitoring of northern chamois, Alpine ibex, and mouflon in Triglav National Park to improve understanding of population status and ecological connectivity. Velenje: Environmental Protection College, 25 str.
- Enetwild-Consortium, Vada R., Brož L., Citterio C., Obber F., Ferroglio E., Hahn N., Knauf S., O'mahony K., Platovšek Z., **Pokorny B.**, Sauter-Louis C., Staubach C., Zanet S., et al. 2025. A review of different methods to find and date wild boar carcasses in different countries. Parma: European Food Safety Authority, 86 str. DOI: 10.5281/zenodo.17591492.

Awards:

- *Prometei of the science* for the excellence in communication and for the transfer of the scientific achievements to the end-users (2017)
- Silver *Gold-horn plaque* for published professional papers on population management (2016)

Izbrani znanstveni članki / Selected scientific papers:

Bužan E., Potočnik H., **Pokorny B.**, Potušek S., Iacolina L., Gerič U., Urzi F., Kos I. 2024. Molecular analysis of scats revealed diet and prey choice of grey wolves and Eurasian lynx in the contact zone between the Dinaric Mountains and the Alps. *Frontiers in zoology*, 21: a9, 15 str. DOI: 10.1186/s12983-024-00530-6.

Bužan E., Potušek S., Urzi F., **Pokorny B.**, Šprem N. 2020. Genetic characterisation of wild ungulates: successful isolation and analysis of DNA from widely available bones can be cheap, fast and easy. *ZooKeys*, 965: 141-156. DOI: 10.3897/zookeys.965.54862.

Cerri J., Stendardi L., Bužan E., **Pokorny B**. 2023. Accounting for cloud cover and circannual variation puts the effect of lunar phase on deer–vehicle collisions into perspective. *Journal of applied ecology*, 60: 1698-1707. DOI: 10.1111/1365-2664.14432.

Chirichella R., Apollonio M., **Pokorny B.**, De Marinis A. M. 2023. Sex-specific impact of tooth wear on senescence in a low-dimorphic mammal species: the European roe deer (*Capreolus capreolus*). *Journal of zoology*, 319: 210-220. DOI: 10.1111/jzo.13038.

Enetwild-Consortium, Guerrasio T., Carniato D., Acevedo P., Apollonio M., Arakelyan M., Arnon A., Beatham S., Belova O., Berde L., Bužan E., Duniš L., **Pokorny B.**, et al. 2024. Generating wildlife density data across Europe in the framework of the European Observatory of Wildlife (EOW). *EFSA supporting publications*, 21: a9084e, 72 str. DOI: 10.2903/sp.efsa.2024.EN-9084.

Enetwild-Consortium, Queirós J., Caballero J., Blanco-Aguiar J. A., Bocanegra I., María J. T., Acevedo P., Guerrasio T., Apollonio M., Berdión O., **Pokorny B.**, et al. 2023. A pilot on integrated wildlife monitoring at European scale: environmental detection of selected pathogens in the European Observatory of Wildlife. *EFSA supporting publications*, 20: a8241e, 58 str. DOI: 10.2903/sp.efsa.2023.EN-8241.

Flajšman K., Fležar U., **Pokorny B.**, Jerina K. 2019. Pregled metod za določanje številčnosti prostoživečih parkljarjev. *Acta silvae et ligni*, 118: 13-27. DOI: 10.20315/ASetL.118.2.

Oleinic R., Posedi J., Beck R., Šprem N., Škorput D., **Pokorny B.**, Škorjanc D., Prevolnik Povše M., Skok J. 2024. Testing the 'parasite-mediated domestication' hypothesis: a comparative approach to the wild boar and domestic pig as model species. *PeerJ*, 12: a18463, 18 str. DOI: 10.7717/peerj.18463.