

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

**Predmet:** Doktorski seminar 2  
**Course title:** Doctoral seminar 2

<b>Študijski program in stopnja</b> Study programme and level	<b>Študijska smer</b> Study field	<b>Letnik</b> Academic year	<b>Semester</b> Semester
Informacijske znanosti, doktorski študijski program tretje stopnje	Obe smeri	Tretji	Peti in šesti
Information sciences, , third cycle Doctoral Study Programme	Both fields	Third	Fifth and sixth

**Vrsta predmeta / Course type**

Obvezni/ Mandatory

**Univerzitetna koda predmeta / University course code:**

1-IZ-DR-MKO-RZ-DS2-2024-04-24

<b>Predavanja</b> Lectures	<b>Seminar</b> Seminar	<b>Vaje</b> Tutorial	<b>Klinične vaje</b> work	<b>Druge oblike študija</b>	<b>Samost. delo</b> Individ. work	<b>ECTS</b>
-	30	-	-	-	270	10

**Nosilec predmeta / Lecturer:** prof. dr. Biljana Mileva Boshkoska, doc. dr. Kenny Štorgel

**Jeziki / Languages:** **Predavanja / Lectures:** Slovenski, angleški / Slovene, English  
**Vaje / Tutorial:**

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

Opravljenе vse obveznosti prvega in drugega letnika.

**Prerequisites:**

All obligations from the first and second year.

**Vsebina:**

**Content (Syllabus outline):**

Seminar se neposredno navezuje na končno pripravo doktorske disertacije.

Študent/ka k seminarju pristopi s prvim osnutkom doktorske disertacije, ki mora vključevati najmanj:

- jasno formulirano raziskovalno vprašanje in/ali hipoteze,
- predstavitev uporabljenih raziskovalnih metod,
- vsaj preliminarne raziskovalne rezultate,
- vsaj preliminarno interpretacijo raziskovalnih rezultatov v luči vprašanj/hipotez,
- utemeljitev inovativnosti doktorske disertacije kot relevantnega prispevka k znanosti.

Študent dobi možnost "generalnega poskusa" zagovora, ki je izveden v obliki seminarja (predavanja) pred člani komisije za zagovor in pred ostali študenti. Kandidat tako dobi nasvete za izboljšavo ne samo disertacije, ampak tudi samega zagovora. Hkrati komisija za zagovor odpravi ali razjasni morebitne pripombe na kandidatovo raziskovalno delo, disertacijo in zagovor. Sodelujoči študenti predstavijo in zagovarjajo svoje osnutke disertacij in hkrati kritično presojujejo osnutke drugih študentov.

Izpolnjeni osnutek mora z danimi relevantnimi pripombami in sugestijami služiti kot zadostna podlaga za pripravo končnega besedila doktorske disertacije. Če nosilec oceni, da tudi izpopolnjeni osnutek besedila tega še ne omogoča, mora študent(ka) seminar kot celoto opravljati ponovno.

The seminar is directly related to the final preparation of the doctoral dissertation.

The student approaches to the seminar with first draft of the doctoral dissertation, which must include at least the following:

- clearly formulated research question and/or hypothesis,
- presentation of the research methods used,
- at least preliminary research results,
- at least a preliminary interpretation of the research results in the light of the questions/hypotheses,
- grounds and arguments for innovative character of the doctoral dissertation as a novel and relevant contribution to science.

The student is given the opportunity of a rehearsal of his/her defence, which is implemented in the form of a seminar (lecture) in front of the members of the defence committee and peer students. The candidate thus gets comments and feedback towards improving not only the dissertation itself, but also the defence. At the same time, the defence committee can eliminate or clarify possible critiques on the candidate's research work, dissertation, and defence. All participating students present their defence drafts of dissertations while critically evaluating the others' drafts.

The completed draft must serve as a sufficient basis for the preparation of the final text of the doctoral dissertation. If the supervisor considers that the improved draft text does not provide this, the student must repeat the seminar.

### Temeljni literatura in viri / Readings:

- Schwabish, J. (2021). *Better data visualizations: a guide for scholars, researchers, and wonks*. Chichester, NY: Columbia University Press.
- Jambreč, P., Avbelj, M., Vodopivec, I., Novak, M., Igljčar, A., Brožič, L., Strahovnik, V., Justinek, G., & Grum, B. (2020). *Metodologija znanstvenega raziskovanja*. Nova Gorica, Slovenija: Nova univerza.
- Pears, R. & Shields, G. (2019). *Cite them right: the essential referencing guide*. London, United Kingdom: Macmillan international Higher Education/Red Globe Press, an imprint of Springer Nature Limited.

- Day, T. (2018). *Success in academic writing*. London, United Kingdom: Red Globe Press.
- Murray, R. (2017). *How to write a thesis*. London, United Kingdom: Open University Press.

### **Cilji in kompetence:**

*Učna enota prispeva k razvoju naslednjih splošnih in predmetno-specifičnih kompetenc:*

Splošne kompetence:

- Zavezanost profesionalni etiki.
- Sposobnost identificiranja danega raziskovalnega problema, njegove analize, ovrednotenja ter oblikovanja možnih rešitev.
- Ustvarjanje novega znanja, ki pomeni relevanten prispevek k razvoju znanosti.
- Sposobnost obvladanja standardnih metod, postopkov in procesov raziskovalnega dela na znanstvenem področju študija.
- Prizadevanje za kakovost znanstveno-raziskovalnega dela skozi avtonomnost, (samo)kritičnost, (samo)refleksivnost in (samo)evalviranje.
- Sposobnost za reševanje konkretnih raziskovalnih problemov na posameznih področjih.
- Razvoj veščin in spretnosti v uporabi znanja na raziskovalnem področju doktorske disertacije.
- Sposobnost inovativne uporabe in kombiniranja raznih raziskovalnih metod.

Predmetno-specifične kompetence:

- Sposobnost načrtovanja ter avtonomnega reševanja konkretnih raziskovalnih problemov, vključno z najbolj kompleksnimi vprašanji.
- Sposobnost operacionalizacije abstraktnih teoretskih konceptov na visoki ravni zahtevnosti.
- Kritično ocenjevanje, formulacija in sposobnost zagovarjanja raziskovalnega načrta na najvišji zahtevnostni ravni.

### **Objectives and competences:**

*The module contributes to the following general and subject-specific competences:*

General competences:

- Commitment to professional ethics.
- Ability to identify a given research problem, analyse it, evaluate it and formulate possible solutions.
- Ability to create new knowledge, which represents a contribution to science.
- Ability to master standard methods, procedures and processes of research work in the scientific field of study.
- Striving for quality in scientific research through autonomy, (self-)criticism, (self)reflexivity and (self-)evaluation.
- Ability to solve concrete research problems in individual scientific fields.
- Development of skills and abilities in usage of knowledge in the scientific field of doctoral dissertation.
- Ability to innovatively use and combine diverse research methods.

Subject-specific competences:

- Ability to plan and autonomously solve concrete research problems, including the most complex issues.
- Ability to operationalize abstract theoretical concepts at the advanced level.
- Critical evaluation and formulation of the research design at the most advanced level and the ability to defend it.
- Ability to prepare a doctoral dissertation, present it and conduct peer reviews.
- Ability to acquire, interpret, select, evaluate and insert new knowledge and the ability to interpret it.

- Sposobnost priprave doktorske disertacije, njene predstavitve ter izvedbe kolegialnih recenzij.
- Sposobnost pridobivanja, selekcije, ocenjevanja in umeščanja novih znanj in zmožnost njihove interpretacije.
- Sposobnost predstavitve pridobljenih znanstvenih izsledkov.

- Ability to present the obtained scientific results.

**Predvideni študijski rezultati:**

- Znanje in razumevanje:
- Študent/študentka pridobi znanja za:*
- zagovor svojega osnutka doktorske disertacije ter pridobiti komentarje prisotnih,
  - kritično presojo osnutkov doktorskih disertacij svojih študijskih kolegic in kolegov,
  - upoštevanje relevantnih pripomb in sugestij s seminarja pri izdelavi končnega besedila doktorske disertacije,
  - upoštevanje nasvetov in pripomb za izboljšavo samega zagovora.

**Intended learning outcomes:**

- Knowledge and understanding:
- The student acquires knowledge for:*
- the defense of her/his doctoral dissertation and obtains the comments those present,
  - critical assessment of draft doctoral dissertations of her/his study colleagues (peers),
  - considering relevant comments and suggestions from the seminar in the process of finalization of doctoral dissertation,
  - considering advice and comments towards improving the defence talk itself.

**Metode poučevanja in učenja:**

- Seminarско delo s komisijo in z ostalimi študenti.
- Individualno delo.

**Learning and teaching methods:**

- Seminar work with the Commission and with the rest of the student.
- Individual work.

<b>Načini ocenjevanja:</b>	Delež (v %) / Weight (in %)	<b>Assessment:</b>
Način (pisni izpit, ustno izpraševanje, naloge, projekt): <ul style="list-style-type: none"> <li>• Osnutek disertacije in predstavitve</li> <li>• Ena kolegialna recenzija</li> </ul>	80  20	Type (examination, oral, coursework, project): <ul style="list-style-type: none"> <li>• Dissertation draft and its presentation</li> <li>• One peer review</li> </ul>

**Reference nosilca / Lecturer's references:**

prof. dr. Biljana Mileva Boshkoska

- Kunić, Z., Ženko, B., & Mileva Boshkoska, B. (2021). FOCUSED-short-term wind speed forecast correction algorithm based on successive nwp forecasts for use in traffic control decision support systems. *Sensors*, 21(10), 3405. <https://doi.org/10.3390/s21103405>

- MilevaBoshkoska, B., Miljković, D., Valmarska, A., Gatsios, D., Rigas, G., Konitsiotis, S., &Bohanec, M. (2020). Decision support for medication change of Parkinson's disease patients.*Computer Methods and Programs in Biomedicine*, 196, 105552. <https://doi.org/10.1016/j.cmpb.2020.105552>
- Boškosi, P., Perne, M., Rameša, M., &MilevaBoshkoska, B. (2021). Variational Bayes survival analysis for unemployment modeling. *Knowledge-Based Systems*, 229, 107335. <https://doi.org/10.1016/j.knsys.2021.107335>
- Zhao, G., Liu, S., Lopez, C., Lu, H., Elgueta, S., Chen, H., &MilevaBoshkoska, B. (2019). Blockchain technology in agri-food value chain management: A synthesis of applications, challenges, and future research directions.*Computers in Industry*, 109, 83–99. <https://doi.org/10.1016/j.compind.2019.04.002>

Doc. dr. Kenny Štorgel

- Dallard, C. J., Milanič, M., & Štorgel, K. (2021). Treewidth versus clique number. I. Graph classes with a forbidden structure. *Siam journal on discrete mathematics*, 35, 2618–2646. <https://doi.org/10.1137/20M1352119>
- Dallard, C. J., Milanič, M., & Štorgel, K. (2024). Treewidth versus clique number. II. Tree-independence number. *Journal of combinatorial theory. Series B.*, 164, 404–442. <https://doi.org/10.1016/j.jctb.2023.10.006>
- Dallard, C. J., Milanič, M., & Štorgel, K. (2024). Treewidth versus clique number. III. Tree-independence number of graphs with a forbidden structure. *Journal of combinatorial theory. Series B.*, 167, 338–391. <https://doi.org/10.1016/j.jctb.2024.03.005>
- Dallard, C. J., Lozin, V., Milanič, M., Štorgel, K., & Zamaraev, V. (2024). Functionality of box intersection graphs. *Results in mathematics*, 79, 1–17. <https://doi.org/10.1007/s00025-023-02075-2>