

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

**Predmet:** Magistrski raziskovalni seminar  
**Course title:** Thesis Seminar

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Kibernetska varnost, magistrski študijski program druge stopnje	-	Drugi	Tretji
The second cycle masters study programme Cyber Security	-	Second	Third

**Vrsta predmeta / Course type**

Obvezni / Obligatory

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

5-KV-MAG-MRS-2021-12-14

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
15	-	30	-	-	135	6

**Nosilec predmeta / Lecturer:**

Doc. dr. Katarina Rojko

**Jeziki / Languages:**

**Predavanja / Lectures:** Slovenski, angleški / Slovene, English

**Vaje / Tutorial:** Slovenski, angleški / Slovene, English

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

Pogoj za vključitev v delo je vpis v 2. letnik študija.

**Prerequisites:**

The prerequisite is enrolment into the second year of the study.

**Vsebina:**

Predmet predstavlja praktično pripravo na izvedbo raziskovalne naloge za potrebe magistrske naloge. Pri predmetu študent(ka) izvede zapletenejšo raziskavo za rešitev kompleksnejšega teoretičnega ali empiričnega problema, skozi katero težimo k poglobitvi in kritičnemu ovrednotenju do sedaj pridobljenih izbranih teoretičnih in metodoloških znanj.

**Content (Syllabus outline):**

The course represents the practical preparations to carry out research work for the needs of a thesis. In this course, the student survey conducted for the solution of complex theoretical or empirical problem, through which we strive to deepen and critical evaluation so far acquired selected theoretical and methodological skills.

Študentje na začetku predavanj v sodelovanju z mentorjem izberejo raziskovalni problem iz področja, ki jih strokovno najbolj zanima in izvedejo celovit manjšo raziskavo, ki vključuje:

- Opredelitev problema in ciljev raziskave,
- oblikovanje raziskovalnih vprašanj in hipotez,
- konceptualizacijo,
- izbor in utemeljitev raziskovalnih strategij,
- organizacijo in izvedbo empirične raziskave,
- interpretacijo rezultatov,
- zaključek in / ali diskusijo.

Students at the beginning of lectures in collaboration with mentors chosen research problem from the areas which are most interested in a professional and implement a comprehensive small-scale research, which includes:

- definition of the problem and goals of the research
- developing research questions and hypotheses,
- conceptualisation,
- selection and justification of research strategies,
- organization and implementation of empirical research,
- interpretation of results,
- conclusion and / or discussion.

### Temeljni literatura in viri / Readings:

- Susan Carter, Frances Kelly, Ian Brailsford (2012): *Structuring Your Research Thesis*, Palgrave MacMillan.
- Blaxter, Loraine, Hughes, Christina, Tight, Malcolm (2011): *How to Research*, fourth edition, Open University Press & McGraw-Hill Education, Maidenhead & NY.
- Murray, Rowena (2017): *How to write a thesis*, 4th ed., London : Open University Press.
- Biggam, Joe (2021): *Succeeding with Your Master's Dissertation*, 5<sup>th</sup> ed., London: Open University Press.
- Martin Hewings (2006): *Academic Writing in Context: Implications and Applications*, Continuum, London.
- Popper, Karl R. (2014): *The Logic of Scientific Discovery*, Mansfield Centre : Martino Publishing,

### Cilji in kompetence:

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

#### Splošne kompetence:

- poznavanje pomena kakovosti in prizadevanje za kakovost strokovnega dela skozi avtonomnost, samoiniciativnost, (samo)kritičnost, (samo)refleksivnost in (samo)evalviranje;
- Sposobnost pridobivanja, selekcije, analize informacij in zmožnost njihove interpretacije za celovito reševanje problemov, izzivov in incidentov s področja kibernetike varnosti.

### Objectives and competences:

The instructional unit contributes to the development of the following general and subject-specific competences:

#### General competences:

- Knowledge of the importance of quality and striving for the quality of professional work through autonomy, self-initiative, as well as (self-)criticism, (self-)reflection and (self-)evaluation.
- The ability to obtain, select, analyze information, as well as to interpret them to comprehensively solve problems, challenges and incidents in the field of cyber security.

**Predmetno-specifične kompetence:**

- uporaba metodoloških orodij – izvajanje, koordiniranje in organiziranje raziskav, uporaba raznih raziskovalnih metod in tehnik;
- sposobnost pridobivanja, selekcije, ocenjevanja in umeščanja novih informacij in zmožnost interpretacije;
- sposobnost sinteze izvirnih idej, konceptov in rešitev določenih problemov;
- poznavanje in razumevanje procesov raziskovanja in sposobnost njihove kompleksne analize;
- razvoj veščin in spretnosti pri uporabi znanja za reševanje teoretičnih ali empiričnih raziskovalnih problemov;
- uporaba in kombiniranje znanj iz različnih disciplinarnih področij;
- sposobnost za reševanje konkretnih raziskovalnih problemov z uporabo znanstvenih metod in postopkov.

**Subject-specific competences:**

- use of methodological tools - implementation, coordination and organization of research, the use of different research methods and techniques;
- the ability to obtain, select, evaluate and place new information and the ability to interpret the research problem;
- competence to form original ideas, concepts and solutions for specific problems from different disciplines;
- familiarity with and understanding of processes of research and competence for their complex analysis;
- the development of skills and abilities for the use of knowledge to solve theoretical or empirical research problems;
- use and combination of knowledge for various disciplinary fields;
- the ability to solve research problems with the use of scientific methods and procedures.

**Predvideni študijski rezultati:**

Znanje in razumevanje:

*Študent/študentka:*

- zna oblikovati relevantno raziskovalno vprašanje na temelju predstavljenega kompleksnega problema
- v bibliografskih bazah in bazah podatkov zna poiskati ključne koncepte in teorije, s katerimi pripravi konceptualni okvir raziskave
- iz analize zna izluščiti rešitev teoretičnega problema ali oblikovati predloge za reševanje kompleksnejših empiričnih problemov
- izvede celoten raziskovalni postopek – od operacionalizacije in izbora raziskovalne metode do zbiranja, analize in interpretacije podatkov
- je sposoben sinteze spoznanj in ovrednotenja raziskave, ki jo izvede

**Intended learning outcomes:**

Knowledge and understanding:

The student will be able to:

- formulate relevant research questions based on the present complex problem
- search bibliographic databases to find the key concepts and theories to prepare the conceptual framework of research
- know how to extract from the analysis of the theoretical problem to formulate proposals for solving complex empirical issues
- carry out the entire research process - from operationalization and selection of research methods to the collection, analysis and interpretation of data
- is able to synthesize the findings and evaluate the research he / she conducts

**Metode poučevanja in učenja:**

- na začetku *kratka predavanja* z aktivno udeležbo študentov (diskusija, vprašanja, primeri, reševanje problemov)
- individualne in skupinske *konzultacije* (diskusija, dodatna razlaga, obravnava specifičnih vprašanj)
- *seminarske vaje* (refleksija izkušenj, študije primera, projektno delo, timsko delo, metode kritičnega mišljenja, diskusija, sporočanje povratne informacije);
- *raziskovalno delo* (z letnim programom je določena ena ali več raziskovalnih tem glede na usmeritev raziskovanja in tekoče raziskovalne projekte)

**Learning and teaching methods:**

- starting with the lectures with active participation of students (discussion, questions, examples, problem solving)
- individual and group consultations (discussion, additional explanation deals with specific issues)
- tutorials (reflection on experiences, case studies, project work, team work, critical thinking, discussion, feedback);
- research (the annual program has defined one or more research themes in relation to the direction of research and ongoing research projects)

Delež (v %) /

Weight (in %)

**Načini ocenjevanja:****Assessment:**

Način (pisni izpit, ustno izpraševanje, naloge, projekt): <ul style="list-style-type: none"> <li>• empirična raziskovalna seminarska naloga in njena predstavitev na vajah</li> </ul>	100 %	Type (examination, oral, coursework, project): <ul style="list-style-type: none"> <li>• applied seminar work and final presentation at tutorials</li> </ul>
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**Reference nosilca / Lecturer's references:**

- ROJKO, Katarina, BRATIČ, Brankica, LUŽAR, Borut. The Bologna reform's impacts on the scientific publication performance of Ph.D. graduates : the case of Slovenia. *Scientometrics*, ISSN 0138-9130, 2020, vol. 124, iss. 1, str. 329-356, ilustr. <https://doi.org/10.1007/s11192-020-03482-w>, doi: 10.1007/s11192-020-03482-w. [COBISS.SI-ID 16975875],
- ROJKO, Katarina, ERMAN, Nuša, JELOVAC, Dejan. Impacts of the transformation to industry 4.0 in the manufacturing sector : the case of the U.S. *Organizacija : revija za management, informatiko in kadre*, ISSN 1318-5454. [Tiskana izd.], Nov. 2020, vol. 53, no. 4, str. 287-305, ilustr. <http://organizacija.fov.uni-mb.si/index.php/organizacija/article/view/1387>. [COBISS.SI-ID 41158147],
- ROJKO, Katarina, LESJAK, Dušan, VEHOVAR, Vasja. Information communication technology spending in (2008-) economic crisis. *Industrial management + data systems*, ISSN 0263-5577, 2011, no. 3, vol. 111, str. 391-409, tabele. [COBISS.SI-ID 15384373],
- ERMAN, Nuša, ROJKO, Katarina, LESJAK, Dušan. Traditional and new ICT spending and its impact on economy. *Journal of computer information systems*, ISSN 0887-4417, 2020, vol. , iss. , str. 1-13, ilustr. <https://www.tandfonline.com/doi/full/10.1080/08874417.2020.1830007>, doi: 10.1080/08874417.2020.1830007. [COBISS.SI-ID 44760067]

- ROJKO, Katarina, JELOVAC, Dejan. Challenges due to excessive amount of online data and (mis)Information. V: STRAHONJA, Vjeran (ur.), KIRINIĆ, Valentina (ur.). *CECIIS : Central European Conference on Information and Intelligent Systems : 29th international conference, September 19th-21st, 2018, Varaždin, Croatia*, (Central European Conference on Information and Intelligent Systems (Print), ISSN 1847-2001), (Central European Conference on Information and Intelligent Systems (Online), ISSN 1848-2295). Varaždin: Faculty of Organization and Informatics. 2018, str. 33-38, graf. prikazi. [COBISS.SI-ID 2048535571]
- ROJKO, Katarina. Innovative learning and teaching in higher education supported by web platforms and applications. V: Zbornik radova = Book of Proceedings. Tuzla: Internacionalna poslovno - informacijska akademija. 2020, str. 67-80. <http://ipi-akademija.ba/file/diec-2020-zbornik-b5-online-sa-naslovnom-1/117>. [COBISS.SI-ID 23599107]