

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet: Course title:	Metodologija znanstvenega raziskovanja Scientific Research Methodology
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Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Zdravstvene vede/3. stopnja		1. letnik	1.
Health sciences/3 <sup>rd</sup> Cycle		1 <sup>st</sup> year	1 <sup>st</sup>

Vrsta predmeta/Course type: obvezni/obligatory

Univerzitetna koda predmeta/University course code: 3\_ZV\_1\_UN2

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
30	30				390	15

Nosilec predmeta/Lecturer: izr. prof. dr. Nadja Plazar, doc. dr. Srečko Devjak

Jeziki/ Languages:	Predavanja/Lectures:	slovenski/Slovenian
	Vaje/Tutorial:	slovenski/Slovenian

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

- Vpis v prvi letnik študijskega programa.
- Študent mora pred izpitom pripraviti in predstaviti ter zagovarjati raziskovalno nalogo.

**Prerequisites:**

- Enrolment in the first year of study.
- Student has to prepare, present and defend a research paper before the exam.

**Vsebina:**

- *Uvod:* osnovne definicije znanstveno-raziskovalnega dela in osnovne faze znanstveno-raziskovalnega procesa empiričnega in teoretičnega raziskovanja.
- *Vrste raziskav:* temeljne, aplikativne, razvojne raziskave, kvantitativne in kvalitativne raziskave, evalvacijske raziskave, akcijsko raziskovanje, teoretične in empirične raziskave itd.
- *Načrtovanje in potek empirične raziskave.*
- *Opredelitev namena, ciljev, raziskovalnih vprašanj in hipotez.*
- *Tehnike zbiranja empiričnih podatkov.*

**Content (Syllabus Outline):**

- *Introduction:* the main definitions of scientific research work and the main stages of scientific research process in an empirical and theoretical research.
- *Types of research:* basic, applied, developmental research, quantitative and qualitative research, evaluation research, action research, theoretical and empirical research, etc.
- *Empirical research planning and development.*

<ul style="list-style-type: none"> <li>• <i>Merske karakteristike instrumentov:</i> veljavnost, zanesljivost, objektivnost, občutljivost.</li> <li>• uporaba programskih orodij na področju statistike in analitike.</li> <li>• <i>Kvantitativne metode:</i> metode analize razlik s parametričnimi preizkusi (t - preizkus za odvisne vzorce, t - preizkus za neodvisne vzorce, enosmerna analiza variance za več skupin, enosmerna analiza kovariance z eno in več spremenljivkami), metode analize razlik z neparametričnimi preizkusi (Wilcoxonov preizkus, Friedmanov preizkus), metode multivariantne analize (bivariantna, multipla korelacija in regresija, faktorska analiza).</li> <li>• <i>Kvalitativne metode:</i> metode kvalitativne analize podatkov (oblikovanje poskusne teorije, kodiranje, oblikovanje kategorij), analiza diskurza.</li> <li>• <i>Povezanost raziskovanja s teorijo:</i> pomen teoretičnega okvira za oblikovanje problema raziskovanja in operacionalizacijo raziskovalnih vprašanj, prenos raziskovalnih ugotovitev v prakso.</li> <li>• <i>Sodobni raziskovalni trendi v raziskavah</i> in analiza izbranih primerov raziskav.</li> <li>• <i>Kriteriji ugotavljanja kakovosti opravljenih raziskav,</i> uporaba kriterijev za analizo izbranih primerov.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Definition of research purpose, objectives, research questions, and hypotheses.</i></li> <li>• <i>Empirical data collection techniques.</i></li> <li>• <i>Characteristics of measurement instruments:</i> validity, reliability, objectivity, sensitivity.</li> <li>• Use of software tools in the area of statistics and analytics.</li> <li>• <i>Quantitative methods:</i> methods of difference analysis with parametric tests (t - test for dependent samples, t - test for independent samples, one-way analysis of variance for several groups, one-way analysis of covariance with one or more variables), methods of difference analysis with non-parametric tests (Wilcoxon test, Friedman test), methods of correlation analysis (bivariate, multiple correlation and regression, factor analysis).</li> <li>• <i>Qualitative methods:</i> methods of qualitative data analysis (experimental theory design, coding, category design), discourse analysis.</li> <li>• <i>Integration of research with theory:</i> importance of the theoretical framework in shaping the research problem and operationalising the questions, transfer of research findings into practice.</li> <li>• <i>Contemporary research trends in research</i> and analysis of selected research examples.</li> <li>• <i>Criteria for determining the quality of the performed research,</i> application of the criteria to the analysis of the selected cases.</li> </ul>
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**Temeljna literatura in viri/Readings:**

### Temeljna literatura/Basic literature

- Kumar, R. (2019). *Research methodology: a step-by-step guide for beginners* (Fifth Edition). SAGE, London.
- Creswell, J. W. (2014). *Research design: qualitative, quantitative and mixed methods approaches* (Fourth Edition). Thousand Oaks, California, ZDA: Sage Publications, Inc.
- Adam, F., Hlebec, V., Kavčič, M., Lamut, U., Mrzel, M., Podmenik, D. idr. (2012). *Kvalitativno raziskovanje v interdisciplinarni perspektivi*. Ljubljana: Inštitut za razvojne in strateške analize.
- Field, A. P. (2013). *Discovering statistics using IBM SPSS statistics*, London: Sage.
- Košmelj, B., Rován, J. (2007). *Statistično sklepanje*. Ljubljana: Ekonomska fakulteta.
- Liamputtong, P. (2020). *Qualitative Research Methods*. Docklands (Victoria): Oxford University Press.
- Marinšek, D. (2015). *Multivariatna analiza: zbirka rešenih primerov s komentarji*. Ljubljana: Ekonomska fakulteta.

### Priporočljiva literatura/Recommended literature

- Chandler, R., and Scott, M., (2011). *Statistical Methods for Trend Detection and Analysis in the Environmental Sciences*, Chichester, UK: Wiley.
- Barnett, V. (2004). *Environmental Statistics: Methods and Applications*, Chichester, UK: Wiley.
- McMillan, K., and Weyers, J. D. B. (2013). *How to Research & Write a Successful PhD. Smarter Study Skills*. Harlow, England: Pearson Education.
- Rennie, F., and Smyth, K. (2016). *How to write a research dissertation: essential guidance in getting started for undergraduates and postgraduates*. University of the Highlands & Islands, Lews Castle College UHI; Edinburgh: Edinburgh Napier University.

### Cilji in kompetence:

Cilj predmeta je usposobiti kandidate za samostojno načrtovanje in izvedbo empirične raziskave: od ustreznega konceptualiziranja raziskovalnega problema in pregleda stanja na določenem področju, postavljanja teoretsko utemeljenih raziskovalnih vprašanj in izbora ustreznih raziskovalnih pristopov in metod do analize in interpretacije podatkov ter oblikovanja zaključkov, pomembnih za implementacijo raziskovalnih ugotovitev v prakso.

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

- celovito kritično mišljenje, sposobnost analize, sinteze in predvidevanja rešitev,

### Objectives and Competences:

The aim of the course is to teach candidates independent planning and execution of empirical research: from the appropriate conceptualization of the research problem and reviewing the situation in a particular area, to the placement of theoretically defined research questions and the selection of appropriate research approaches and methods, to the analysis and interpretation of data and forming the conclusions, relevant for the implementation of research results in practice.

*The course unit contributes mainly to the development of the following general and specific competences:*

- sposobnost za reševanje problemov z uporabo znanstvenih metod in postopkov,
- poznavanje in uporaba raziskovalne metodologije: metode, postopki, procesi, tehnologije,
- sposobnost za:
  - samostojno načrtovanje in izvedbo raziskovalnega dela,
  - analizo podatkov,
  - interpretacijo rezultatov,
  - oblikovanje in utemeljitev mnenj, stališč in predlogov in
  - pripravo raziskovalnega poročila;
- poznavanje standardov in meril za pisanje strokovnih in znanstvenih člankov, prispevkov, raziskovalnih poročil idr.,
- usposobljenost za aktivno sodelovanje na znanstvenih konferencah, raziskovalnih delavnicah, doktorskih in znanstvenih seminarjih.

- comprehensive critical thinking, the competence for forming an analysis and synthesis, and solution anticipation,
- the ability for solving problems using scientific methods and procedures,
- a thorough knowledge and usage of the research methodology: methods, procedures, processes, technologies.
- the ability for:
  - independent planning and implementation of the research work,
  - data analysis,
  - interpretation of results,
  - formation and argumentation of opinions, views, and proposals and
  - preparation of the research reports;
- knowledge of the standards and criteria for writing professional and scientific research papers, articles, research reports, etc.,
- competence for active participation on scientific conferences, research workshops and doctoral and scientific seminars.

#### **Predvideni študijski rezultati:**

##### ***Študent/študentka razvije:***

- sposobnost odkrivanja praktičnih problemov, ki jih je mogoče reševati z raziskovalnimi metodami in instrumenti,
- zmožnost zastaviti, oblikovati in izvajati obsežen raziskovalni proces,
- sposobnost uporabe programskega orodja SPSS za statistično obdelavo podatkov,
- zmožnost javnega predstavljanja in zagovarjanja pridobljenih raziskovalnih rezultatov,
- sposobnost integracije teoretskih spoznanj, raziskovalno-metodološkega znanja in praktičnih izkušenj,
- usposobljenost za raziskovanje.

#### **Intended Learning Outcomes:**

##### ***Students develop:***

- the ability to discover practical problems that can be addressed with research methods and instruments,
- the ability to plan, develop and implement a comprehensive research process,
- the ability to use the SPSS software tool for statistical data processing,
- the ability to publicly present and defend the obtained research results,
- the ability to integrate theoretical knowledge, research and methodological knowledge with practical experience,
- the competences for performing the research.

**Metode poučevanja in učenja:**

- *predavanja* z aktivno udeležbo študentov (razlaga, diskusija, vprašanja, primeri, reševanje problemov),
- *seminarji*:
  - študij primera iz prakse,
  - načrt za raziskovalno-projektno delo,
  - izvedba raziskave (voden individualni študij),
  - izdelava, predstavitev in zagovor raziskovalne naloge;
- *konzultacije* (individualne in kolektivne).

**Learning and Teaching Methods:**

- *lectures* with active student participation (explanation, discussion, questions, examples, problem solving),
- *seminars*:
  - studying an example from practice,
  - a plan for research/project work,
  - conducting research (guided individual study),
  - preparation, presentation and defence of the research paper;
- *consultations* (individual and in groups).

Delež (v %)/Weighting Assessment:  
(in %)

<p>Načini:</p> <ul style="list-style-type: none"> <li>• izpit,</li> <li>• temeljna ali aplikativna raziskovalna naloga z zagovorom (obseg 30.000 znakov)</li> </ul> <p><i>Ocenjevalna lestvica:</i> <b>uspešno, neuspešno.</b></p>	<p>60</p> <p>40</p>	<p>Types:</p> <ul style="list-style-type: none"> <li>• exam,</li> <li>• fundamental or applicative research paper with defence (30,000 characters)</li> </ul> <p><i>Grading scale:</i> <b>pass, fail.</b></p>
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