

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet: Metode kvantitativne in kvalitativne analize
Course title: Quantitative and Qualitative Analysis Methods

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Informatika v sodobni družbi, magistrski študijski program druge stopnje	-	Prvi	Prvi
Informatics in Contemporary Society, second cycle Masters Study Programme	-	First	First

Vrsta predmeta / Course type

Obvezni / Obligatory

Univerzitetna koda predmeta / University course code:

1-ISD-MAG-MKKA-2024-02-05

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
40	-	50	-	-	150	8

Nosilec predmeta / Lecturer:

Prof. dr. Borut Rončević, doc. dr. Nuša Erman, doc. dr. Ana Hafner, doc. dr. Urša Lamut

Jeziki / Languages:

Predavanja / Lectures: Slovenski, angleški / Slovene, English
Vaje / Tutorial: Slovenski, angleški / Slovene, English

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

Študent/študentka mora oddati seminarско nalogo, ki lahko temelji na kvalitativni ali kvantitativni metodologiji in jo uspešno zagovarjati na ustnem izpitu, na katerem mora izkazati tudi splošno znanje iz predmeta.

Prerequisites:

The student must submit a seminar paper, which can be based on qualitative or quantitative methodology, and successfully defend it in an oral exam, in which he/she must also demonstrate general knowledge of the course.

Vsebina:

Content (Syllabus outline):

<ul style="list-style-type: none"> • Teoretične in konceptualne perspektive metodologije raziskovanja: cilji raziskave, etika v raziskovalnem procesu, razlike med kvalitativnim in kvantitativnim raziskovalnim pristopom. • Osnovni koraki raziskovanja. • Merske karakteristike kakovostnega raziskovanja (veljavnost, zanesljivost, transparentnost ...) • Metode in tehnike zbiranja ter shranjevanja kvantitativnih in kvalitativnih podatkov. • Urejanje in predstavljanje kvantitativnih in kvalitativnih podatkov. • Opisna statistična analiza: frekvenčne porazdelitve, srednje vrednosti, mere variabilnosti, kvantili. • Grafična predstavitev podatkov. • Inferenčna statistična analiza – preverjanje hipotez. • Bivariatne in multivariatne metode: hi-kvadrat, korelacije, t-test, ANOVA, regresijska analiza ... • Uporaba programskih orodij za kvantitativno analizo podatkov: JASP, Excel, R Studio. • Kvalitativna vsebinska analiza podatkov. • Uporaba programskih orodij za kvalitativno analizo podatkov: ATLAS.ti. 	<ul style="list-style-type: none"> • Theoretical and conceptual perspectives of research methodology: research goals, ethics in the research process, differences between qualitative and quantitative research approaches. • Basic research steps. • Measurement characteristics of quality research (validity, reliability, transparency...) • Methods and techniques of collecting and storing quantitative and qualitative data. • Editing and presentation of quantitative and qualitative data. • Descriptive statistical analysis: frequency distributions, mean values, measures of variability, quantiles. • Graphical presentation of data. • Inferential statistical analysis – hypothesis testing. • Bivariate and multivariate methods: chi-square, correlations, t-test, ANOVA, regression analysis ... • Use of software tools for quantitative data analysis: JASP, Excel, R Studio. • Qualitative content analysis of data. • Use of software tools for qualitative data analysis: ATLAS.ti.
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Temeljni literatura in viri / Readings:

<ul style="list-style-type: none"> • Mertens, W. (2017). Quantitative data analysis. Springer. Dostopno prek: https://link.springer.com/book/10.1007/978-3-319-42700-3 • Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. Journal of Economic Development, Environment and People, 9(4), 50-79. Dostopno prek: https://mpra.ub.uni-muenchen.de/105149/1/MPRA_paper_105149.pdf • Ferligoj, A., Lozar Mnafreda, K. & Žiberna, A. (2011). Inferečna statistika. V: Osnove statistike na prosojnicah, študijsko gradivo pri predmetu Statistika. Fakulteta za družbene vede, Ljubljana. • Žiberna, A. (2016). Osnovna statistična analiza v R-ju. Fakulteta za družbene vede, Založba FDV. • Costa, A. P., Moreira, A., Sánchez-Gómez, M. C., & Wa-Mbaleka, S. (Eds.). (2022). Computer Supported Qualitative Research: New Trends in Qualitative Research (WCQR2022) (Vol. 466). Springer Nature. • Banjac, M. (2020). Uvod v kvalitativne metode zbiranja podatkov. Opazovanje, intervju in fokusna skupina. Ljubljana: Fakulteta za družbene vede. • Saunders, M., Lewis, P. in Thornhill, A. (2007). Research Methods for Business Students: Fourth Edition. Harlow; New York: Prentice Hall.
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Cilji in kompetence:

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

- poznavanje in razumevanje kulturnih in družbenih procesov in sposobnost njihove kompleksne analize
- uporaba metodoloških orodij – izvajanje, koordiniranje in organiziranje raziskav, uporaba raznih raziskovalnih metod in tehnik
- uporaba in kombiniranje znanj za različnih disciplinarnih področij

Objectives and competences:

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

- familiarity with and understanding of cultural and social processes and competence for their complex analysis
- use of methodological tools, i.e. implementation, coordination and organisation of research, use of various research methods and techniques
- the use and combining the knowledge from different disciplines

Predvideni študijski rezultati:

Znanje in razumevanje:

Sposobnost študenta/študentke bo:

- v povezavi z drugimi predmeti bo poznal in razumel relevantna poglavja iz družboslovnega raziskovanja, podatkovnih baz in podatkovne analitike;
- sposoben zavzeti stališče do ključnih etičnih vprašanj v raziskovalnem procesu in kritično vrednotiti konkreten primer;
- poznal in bil sposoben uporabiti izbrane metode in tehnike kvantitativnega in kvalitativnega raziskovanja na višjem nivoju;
- sposoben uporabe osnovne programske opreme za kvantitativno in kvalitativno analizo;
- sposoben pripraviti in izvesti načrt kvantitativne raziskave: raziskovalno vprašanje, hipoteze, načrt zbiranja in obdelave podatkov, zbiranje in obdelava podatkov, diskusija o rezultatih;
- sposoben refleksije in kritičnega vrednotenja primernosti določene raziskovalne metode za analizo konkretnega problema

Intended learning outcomes:

Knowledge and understanding:

The ability of the student:

- to realise and understand the relevant chapters from the research in social science, databases and data analytics;
- to take a position on key ethical issues in the research process and to be critical in evaluating concrete examples;
- to apply methods and techniques of quantitative and qualitative research on a higher level;
- to use of basic software for quantitative and qualitative analysis;
- to prepare and implement a quantitative research plan: research questions, hypotheses, data collection and processing plan, collection and processing of data, discussion about the results;
- reflection and critical evaluation of the appropriateness of certain research methods for the analysis of concrete problems

Metode poučevanja in učenja:

- predavanja z aktivno udeležbo študentov (razlaga, diskusija, vprašanja, primeri, reševanje problemov)
- vaje, kjer študentje na enostavnih primerih ponovijo temeljne koncepte in metode, predstavljene na predavanjih
- laboratorijske vaje, kjer se študenti seznanijo s programskimi orodji za zbiranje in analiziranje podatkov

Learning and teaching methods:

- lectures with active students participation (explanations, discussion, questions, examples, problem solving)
- tutorials (students will recall, reinforce, and shed light on the concepts and methods taught on lectures)
- lab work (students will learn state of the art software for data collection and analysis)

Načini ocenjevanja:

Način:

- seminarska naloga
- ustni izpit

Delež (v %) /

Weight (in %)

Assessment:

Type:

- seminar work
- oral exam

Reference nosilca / Lecturer's references:

- BESEDNJAK VALIČ, Tamara, RONČEVIĆ, Borut, TOMŠIČ, Matevž. How media pluralism navigates ideological orientations : the case of Slovenia. *Frontiers in communication*. 2023, vol. 8, art. 1143786, str. 1-11.
- FRIC, Urška, O'GORMAN, Bill, RONČEVIĆ, Borut. Strategic competence model for understanding smart territorial development. *Societies*. 2023, vol. 13, iss. 3, str. 1-16.
- KLOPČIČ, Alenka Lena, RONČEVIĆ, Borut, BESEDNJAK VALIČ, Tamara. The key player or just a paper tiger? The effectiveness of ACER in the creation and functioning of the EU's internal energy market. *The Electricity journal*. 2022, vol. 35, iss. 9, str. 1-6.
- FRIC, Urška, RONČEVIĆ, Borut, DŽAJIĆ URŠIČ, Erika. Role of computer software tools in industrial symbiotic networks and the examination of sociocultural factors. *Environmental progress & sustainable energy*. 2020, vol. 39, no. 2, 7 str.
- ERMAN, Nuša, ROJKO, Katarina, LESJAK, Dušan. Traditional and new ICT spending and its impact on economy. *Journal of computer information systems*. 2022, vol. 62, iss. 2, str. 384-396.
- ROJKO, Katarina, ERMAN, Nuša. The Impact of the Covid-19 Pandemic on Higher Education Students' Perceptions of Educational Applications and Platforms. *International Journal of Cognitive Research in Science, Engineering and Education*. 2023, vol. 11, no. 2, str. 267-279.
- ROJKO, Katarina, LESJAK, Dušan, ERMAN, Nuša. The COVID-19 Pandemic Crisis : impact on ICT spending. *Journal of computer information systems*. 2022, vol. , iss. , str. 1-16.
- 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. Noc*. 2020, vol. 53, no. 4, str. 287-305.
- ERMAN, Nuša, TODOROVSKI, Ljupčo. The effects of measurement error in case of scientific network analysis. *Scientometrics*, aug. 2015, vol. 104, iss. 2, str. 453-473.

- LIKAR, Borut, HAFNER, Ana, ROPRET, Marko, FATUR, Peter, MARKIČ, Mirko, PUŠAVEC, Franci. Smart innovation management for better business performance. *Journal of East European management studies*. 2023, vol. 28, iss. 3, str. 533-556.
- MODIC, Dolores, HAFNER, Ana, BESEDNJAK VALIČ, Tamara. Every woman is a vessel : an exploratory study on gender and academic entrepreneurship in a nascent technology transfer system. V: AZAGRA-CARO, Joaquín M. (ur.), D'ESTE, Pablo (ur.), BARBERÁ-TOMÁS, David (ur.). *University-Industry Knowledge Interactions : people, tensions and impact*. Cham: Springer, cop. 2022. Str. 159-178.
- ČEHOVIN ZAJC, Jožica, HAFNER, Ana. Gender differences in employee health in Slovenia : the role of work intensity, organisational commitment and mobbing. *Družboslovne razprave*. [Tiskana izd.]. apr. 2020, letn. 36, št. 93, str. 87-107.
- HAFNER, Ana. Inovacijski potencial slovenske avtomobilske industrije. 1. izd. Ljubljana: Vega, 2020. 116 str.
- HAFNER, Ana, MODIC, Dolores. European automotive technological innovation systems in the age of disruption : the suppliers' view. *Research in social change*. Sep. 2020, vol. 12, iss. 3, str. 53-77.
- HAFNER, Ana, MODIC, Dolores, DAMIJ, Nadja. HPC as an object of intellectual property and a tool for IPR management. V: RONČEVIČ, Borut (ur.), COSCODARU, Raluca (ur.), FRIC, Urška (ur.). *Go with the flow : high performance computing and innovations in the Danube region*. London; Budapest; Ljubljana: Vega Press, cop. 2019. Str. 60-72.
- LAMUT, Urša, MACUR, Mirna. Metodologija družboslovnega raziskovanja : od zasnove do izvedbe. 1. izd. Ljubljana: Vega, 2012.
- ADAM, Frane, HLEBEC, Valentina, KAVČIČ, Matic, LAMUT, Urša, MRZEL, Maja, PODMENIK, Darka, POPLAS-SUSIČ, Tonka, ROTAR-PAVLIČ, Danica, ŠVAB, Igor. *Kvalitativno raziskovanje v interdisciplinarni perspektivi*. Ljubljana: Inštitut za razvojne in strateške analize, 2012.
- LAMUT, Urša. Three scenarios of cooperation between higher education and economy. V: BESEDNJAK VALIČ, Tamara (ur.), MODIC, Dolores (ur.), LAMUT, Urša (ur.). *Multifaceted nature of collaboration in contemporary world*. London: Vega Press, 2012.
- BESEDNJAK VALIČ, Tamara, KOLAR, Janez, LAMUT, Urša. Fighting the big bad wolf of global trends : technology transfer between HPC centres and SMEs. *Digital policy, regulation and governance*. 2022, vol. 24, iss. 6, str. 498-512.
- BESEDNJAK VALIČ, Tamara, KOLAR, Janez, LAMUT, Urša. Three scenarios of innovation and technology transfer : the case of key enabling technologies in the Danube Region. *Journal of engineering and applied sciences*. 2020, vol. 15, iss. 21, str. 3619-3623.