



# Detaljni izvedbeni plan

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Akadska godina:</b><br>2025/2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Semestar:</b><br>Zimski  |
| <b>Studiji:</b><br>Komunikologija -<br>Znanstveno istraživanje<br>medija i odnosi s javnošću<br>(R) (izborni)<br>Psihologija (R) (izborni)<br>Diplomski sveučilišni<br>studij Povijest<br>(nastavnički) (R) (izborni)<br>Komunikologija -<br>Interkulturalna<br>komunikacija i<br>novinarstvo (R) (izborni)<br>Sestrinstvo (R) (izborni)<br>Sociologija - Upravljanje i<br>javne politike (R) (izborni)<br>Povijest - usmjerenje Stari<br>vijek i srednji vijek (R)<br>(izborni)<br>Povijest - usmjerenje<br>Suvremena povijest (R)<br>(izborni)<br>Sveučilišni diplomski<br>studij Povijest<br>(nastavnički) (I) (izborni)<br>Povijest (R) (izborni)<br>Sestrinstvo (I) (izborni) | <b>Godina studija:</b><br>1 |

## I. OSNOVNI PODACI O KOLEGIJU

**Naziv kolegija:** Data Science for Social Scientists

**Kratica kolegija:** IZBD251

**Status kolegija:** Obvezni

**ECTS bodovi:** 6

**Šifra kolegija:** 252571

**Preduvjeti za upis kolegija:** Nema

*Ukupno opterećenje kolegija*

| Vrsta nastave | Ukupno sati |
|---------------|-------------|
|---------------|-------------|

|            |    |
|------------|----|
| Predavanje | 30 |
|------------|----|

|                  |    |
|------------------|----|
| Auditorna vježba | 30 |
|------------------|----|

**Mjesto i vrijeme održavanja nastave:** HKS – prema objavljenom rasporedu

## II. NASTAVNO OSOBLJE

*Nositelj kolegija*

|                                                                                     |               |
|-------------------------------------------------------------------------------------|---------------|
| Ime i prezime: Šikić Luka                                                           |               |
| Akademski stupanj/naziv:                                                            | Izbor: docent |
| Kontakt e-mail:<br><a href="mailto:luka.sikic@unicath.hr">luka.sikic@unicath.hr</a> | Telefon:      |
| Konzultacije: Prema objavljenom rasporedu                                           |               |
| Suradnici na kolegiju                                                               |               |

|                                                                                             |          |
|---------------------------------------------------------------------------------------------|----------|
| Ime i prezime: Šagovac Mislav                                                               |          |
| Akademski stupanj/naziv:                                                                    | Izbor:   |
| Kontakt e-mail:<br><a href="mailto:mislav.sagovac@unicath.hr">mislav.sagovac@unicath.hr</a> | Telefon: |
| Konzultacije: Prema objavljenom rasporedu                                                   |          |

### III. DETALJNI PODACI O KOLEGIJU

|                                    |         |
|------------------------------------|---------|
| Jezik na kojem se nastava održava: | English |
|------------------------------------|---------|

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Opis kolegija | This course covers the fundamentals of data science for social scientists on a graduate level, including data collection, analysis, and visualization. Students will gain hands-on experience using statistical software, data collection, statistical analysis, and machine learning algorithms to analyze data and answer social science research questions. The course will also cover effective communication of data findings, helping students develop skills to communicate their research findings to different audiences effectively. |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Očekivani ishodi učenja na razini kolegija | 1. Understand the basics of data science and how it can be applied to social science research. 2. Develop proficiency in using statistical software for data analysis. 3. Learn how to collect, clean, and organize data for analysis. 4. Understand different data visualization techniques and how to communicate data findings effectively. 5. Apply data science techniques to real-world social science problems and research questions. |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|            |  |
|------------|--|
| Literatura |  |
|------------|--|

|          |                                                                                                                                   |
|----------|-----------------------------------------------------------------------------------------------------------------------------------|
| Obavezna | Wickham, H., & Grolemund, G. (2017). R for Data Science: Import, Tidy, Transform, Visualize, and Model Data. O'Reilly Media, Inc. |
|----------|-----------------------------------------------------------------------------------------------------------------------------------|

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dopunska | Provost, F., & Fawcett, T. (2013). Data Science for Social Good: What You Need to Know about Data Mining and Data-Analytic Thinking. O'Reilly Media, Inc.<br><br>McKinney, W. (2017). Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython. O'Reilly Media, Inc.<br><br>Healy, K. (2018). Data Visualization: A Practical Introduction. Princeton University Press.<br><br>Hastie, T., Tibshirani, R., & Friedman, J. (2009). The Elements of Statistical Learning: Data Mining, Inference, and Prediction. Springer |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                  |                                             |                    |
|----------------------------------|---------------------------------------------|--------------------|
| Način ispitivanja i ocjenjivanja |                                             |                    |
| Polaze se DA                     | Isključivo kontinuirano praćenje nastave NE | Ulazi u prosjek DA |

**Preduvjeti za dobivanje  
potpisa i polaganje  
završnog ispita**

Attendance is crucial for success in this course, and students are expected to attend at least 70% of lectures and seminar sessions. This will allow them to stay up-to-date with the course content and participate in discussions and group activities.

In addition to attending lectures and seminars, students will be required to complete a data analysis and visualization project, which will be presented as an oral seminar presentation. This project will allow students to apply the data science skills they have learned to a real-world social science research problem.

To successfully complete the course, students must accumulate at least 35% of their grade through class activities, including written and presented and seminar project. This will ensure that students are regularly engaging with the course content and actively working towards mastering the skills and concepts covered in the course.

**Način polaganja ispita**

Final course grade is based on 100 points earned through student's continuous involvement in class activities:

Fair (2) – 50 to 64 points

Good (3) – 65 to 79 points

Very good (4) – 80 to 89 points

Excellent (5) – 90 to 100 points

Earning credits:

Class activities contribute to 70% of the grade:

Midterm exam – maximum 40 points

Seminar – maximum 20 points

Seminar presentation – maximum 10 points

Final exam contributes to 30% of the grade:

Final exam – maximum of 30 points

**Način ocjenjivanja**

Class activities: Midterm exam (written), seminar presentation (written and oral) and final exam (oral)

**Detaljan prikaz ocjenjivanja unutar Europskoga sustava za prijenos bodova**

| VRSTA AKTIVNOSTI                  | ECTS bodovi - koeficijent opterećenja studenata | UDIO OCJENE (%) |
|-----------------------------------|-------------------------------------------------|-----------------|
| Pohađanje nastave                 | 1.5                                             | 0               |
| Kolokvij-međuispit                | 1.8                                             | 40              |
| Seminarski rad                    | 0.9                                             | 20              |
| Seminarsko izlaganje              | 0.45                                            | 10              |
| Ukupno tijekom nastave            | 4.65                                            | 70              |
| Završni ispit                     | 1.35                                            | 30              |
| UKUPNO BODOVA (nastava+zav.ispit) | 6                                               | 100             |

**Datumi kolokvija:**

**Datumi ispitnih rokova:**

## IV. TJEDNI PLAN NASTAVE

### *Predavanja*

| #  | Tema                                               |
|----|----------------------------------------------------|
| 1  | Introduction to the Course.                        |
| 2  | Traditional Data Types                             |
| 3  | Modern Data Sources.                               |
| 4  | Basics of the R Programming Language.              |
| 5  | Data Manipulation and Preparation.                 |
| 6  | Collecting Data from the Internet I.               |
| 7  | Collecting Data from the Internet II.              |
| 8  | Working with Databases.                            |
| 9  | Descriptive Statistics.                            |
| 10 | Univariate Statistical Analysis.                   |
| 11 | Multivariate Statistical Analysis.                 |
| 12 | Introduction to Machine Learning.                  |
| 13 | Machine Text Analysis.                             |
| 14 | Presentation, Publication, and Sharing of Results. |
| 15 | Final Exam.                                        |