



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.04.02 Applied Mathematics and Informatics  
Educational Programme "Data Analytics and Social Statistics"

Trajectories: "Applied Statistics and Data Science",  
"Computational Social and Network Sciences"

Implementing unit: Faculty of Social Sciences, HSE - Moscow  
1 st, 2024/2025 academic year

APPROVED

24.04.2024

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 2 years

Years of Study: 2024/2025 - 2025/2026

Mode of Study: Full Time

Degree: Master's degree / MBA

| Block Code   | Course  | Subject type | Department   | Credits      | Total Academic Hours | Contact Hours | Allocation of Contact Hours |           |            |            | Additional Information          |
|--|---|--------------|--|--------------|----------------------|---------------|-----------------------------|-----------|------------|------------|---------------------------------|
|  |   |              |  |              |                      |               | 1                           | 2         | 3          | 4          |                                 |
| <b>Degree Programme</b>  |   |              |  | <b>60,00</b> | <b>2 280</b>         | <b>360</b>    | <b>38</b>                   | <b>68</b> | <b>120</b> | <b>138</b> |                                 |
| <b>Computational Social and Network Sciences (General track)</b> |   |              |  | <b>60,00</b> | <b>2 280</b>         | <b>362</b>    | <b>38</b>                   | <b>68</b> | <b>120</b> | <b>136</b> |                                 |
| <b>Major</b>   |   |              |  | <b>39,00</b> | <b>1 482</b>         | <b>304</b>    | <b>24</b>                   | <b>54</b> | <b>106</b> | <b>120</b> |                                 |
| <b>Elective Courses</b>  |   |              |  | <b>6,00</b>  | <b>228</b>           | <b>108</b>    |                             |           | <b>8</b>   | <b>100</b> |                                 |
| 1  | Categorical Data Analysis                             | E            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 28            |                             |           |            | 28A        | Foreign language                |
| 2  | Machine Learning                                      | E            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 8             |                             |           | 8A         |            | Online Course, Foreign language |
| 3  | Multidimensional Data Analysis                        | E            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 40            |                             |           |            | 40A        | Foreign language                |
| 4  | Advanced Methods of Network Analysis in Pajek         | E            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 32            |                             |           |            | 32A        | Foreign language                |
| <b>Compulsory Courses</b>  |   |              |  | <b>33,00</b> | <b>1 254</b>         | <b>196</b>    | <b>24</b>                   | <b>54</b> | <b>98</b>  | <b>20</b>  |                                 |
| 1  | Introduction to Network Analysis                      | C            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 8             |                             | 8A        |            |            | Online Course, Foreign language |
| 2  | Introduction to Statistics                            | C            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 8             | 8A                          |           |            |            | Online Course, Foreign language |
| 3  | Data Mining   | C            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 40            |                             |           | 40A        |            | Foreign language                |
| 4  | Methodology and Logic of Sociological Research Design | C            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 32            |                             |           | 32A        |            | Foreign language                |
| 5  | Programming in R and Python                           | C            | International Laboratory of Applied Network Analysis | 3,00         | 114                  | 8             | 8A                          |           |            |            | Online Course, Foreign language |
| 6  | Applied Linear Models                                 | C            | International Laboratory of Applied Network Analysis | 6,00         | 228                  | 12            |                             | 6         | 6A         |            | Online Course, Foreign language |

|  |   |   |  |              |              |            |           |           |            |            |                                 |
|--|---|---|--|--------------|--------------|------------|-----------|-----------|------------|------------|---------------------------------|
| 7  | Contemporary Data Analysis: Methodology and Methods of Interdisciplinary Research | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 8          | 8A        |           |            |            | Online Course, Foreign language |
| 8  | Contemporary Decision Sciences: an Integrated Perspective                         | C | International Laboratory of Applied Network Analysis | 6,00         | 228          | 40         |           |           | 20         | 20A        | Foreign language                |
| 9  | Probability Theory  | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 40         |           | 40A       |            |            | Foreign language                |
| <b>Key Seminars</b>  |   |   |  | <b>7,00</b>  | <b>266</b>   | <b>56</b>  | <b>14</b> | <b>14</b> | <b>14</b>  | <b>14</b>  |                                 |
| 1  | Research Seminar "Computational Social and Network Sciences"                      | C | International Laboratory of Applied Network Analysis | 6,00         | 228          | 48         | 12        | 12        | 12         | 12A        | Foreign language                |
| 2  | Mentor's Seminar  | C | International Laboratory of Applied Network Analysis | 1,00         | 38           | 8          | 2         | 2         | 2          | 2A         | Foreign language                |
| <b>Magolego</b>  |   |   |  | <b>9,00</b>  | <b>342</b>   |            |           |           |            |            |                                 |
| 1  | All-university Pool MAGOLEGO Courses  | E |  | 9,00         | 342          |            |           |           |            |            | Foreign language                |
| <b>Internship</b>  |   |   |  | <b>5,00</b>  | <b>190</b>   | <b>2</b>   |           |           |            | <b>2</b>   |                                 |
| <b>Research Internship</b>                                 |   |   |  | <b>5,00</b>  | <b>190</b>   | <b>2</b>   |           |           |            | <b>2</b>   |                                 |
| 1  | Term Paper  | C |  | 5,00         | 190          | 2          |           |           |            | 2A         | Foreign language                |
| <b>Applied Statistics and Data Science (Applied track)</b> |   |   |  | <b>60,00</b> | <b>2 280</b> | <b>362</b> | <b>38</b> | <b>68</b> | <b>120</b> | <b>136</b> |                                 |
| <b>Major</b>   |   |   |  | <b>39,00</b> | <b>1 482</b> | <b>304</b> | <b>24</b> | <b>54</b> | <b>106</b> | <b>120</b> |                                 |
| <b>Elective Courses</b>                                    |   |   |  | <b>6,00</b>  | <b>228</b>   | <b>108</b> |           |           | <b>8</b>   | <b>100</b> |                                 |
| 1  | Categorical Data Analysis   | E | International Laboratory of Applied Network Analysis | 3,00         | 114          | 28         |           |           |            | 28A        | Foreign language                |
| 2  | Machine Learning  | E | International Laboratory of Applied Network Analysis | 3,00         | 114          | 8          |           |           | 8A         |            | Online Course, Foreign language |
| 3  | Multidimensional Data Analysis  | E | International Laboratory of Applied Network Analysis | 3,00         | 114          | 40         |           |           |            | 40A        | Foreign language                |
| 4  | Advanced Methods of Network Analysis in Pajek                                     | E | International Laboratory of Applied Network Analysis | 3,00         | 114          | 32         |           |           |            | 32A        | Foreign language                |
| <b>Compulsory Courses</b>                                  |   |   |  | <b>33,00</b> | <b>1 254</b> | <b>196</b> | <b>24</b> | <b>54</b> | <b>98</b>  | <b>20</b>  |                                 |
| 1  | Introduction to Network Analysis  | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 8          |           | 8A        |            |            | Online Course, Foreign language |
| 2  | Introduction to Statistics  | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 8          | 8A        |           |            |            | Online Course, Foreign language |
| 3  | Data Mining   | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 40         |           |           | 40A        |            | Foreign language                |
| 4  | Methodology and Logic of Sociological Research Design                             | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 32         |           |           | 32A        |            | Foreign language                |
| 5  | Programming in R and Python   | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 8          | 8A        |           |            |            | Online Course, Foreign language |
| 6  | Applied Linear Models   | C | International Laboratory of Applied Network Analysis | 6,00         | 228          | 12         |           | 6         | 6A         |            | Online Course, Foreign language |
| 7  | Contemporary Data Analysis: Methodology and Methods of Interdisciplinary Research | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 8          | 8A        |           |            |            | Online Course, Foreign language |
| 8  | Contemporary Decision Sciences: an Integrated Perspective                         | C | International Laboratory of Applied Network Analysis | 6,00         | 228          | 40         |           |           | 20         | 20A        | Foreign language                |
| 9  | Probability Theory  | C | International Laboratory of Applied Network Analysis | 3,00         | 114          | 40         |           | 40A       |            |            | Foreign language                |

| <b>Key Seminars</b>        |  |   |  | <b>7,00</b> | <b>266</b> | <b>56</b> | <b>14</b> | <b>14</b> | <b>14</b> | <b>14</b> |                  |
|----------------------------|--|---|--|-------------|------------|-----------|-----------|-----------|-----------|-----------|------------------|
| 1                          | Applied Statistics and Data Science                        | C | International Laboratory of Applied Network Analysis | 6,00        | 228        | 48        | 12        | 12        | 12        | 12A       | Foreign language |
| 2                          | Mentor's Seminar   | C | International Laboratory of Applied Network Analysis | 1,00        | 38         | 8         | 2         | 2         | 2         | 2A        | Foreign language |
| <b>Magolego</b>            |  |   |  | <b>9,00</b> | <b>342</b> |           |           |           |           |           |                  |
| 1                          | Дисциплины по выбору из общеуниверситетского пула МагоЛеро | E |  | 9,00        | 342        |           |           |           |           |           | Foreign language |
| <b>Internship</b>          |  |   |  | <b>5,00</b> | <b>190</b> | <b>2</b>  |           |           |           | <b>2</b>  |                  |
| <b>Research Internship</b> |  |   |  | <b>5,00</b> | <b>190</b> | <b>2</b>  |           |           |           | <b>2</b>  |                  |
| 1                          | Term Paper   | C |  | 5,00        | 190        | 2         |           |           |           | 2A        | Foreign language |

**Curriculum agreed:**

Academic Supervisor 17.04.2024

Dean MELVILLE A.Y. 17.04.2024

Head of Centre for Educational Model Design LEPESHKIN I.A. 24.04.2024

\* Subject type:

Compulsory course

C

Elective course

E