



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.03.02 Applied Mathematics and Information Science,

38.03.01 Economics

Educational Programme "Economics and Data Science"

Implementing unit: Faculty of Economic Sciences, HSE - Moscow

2 nd, 2024/2025 academic year

APPROVED

02.05.2024

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 4 years

Years of Study: 2023/2024 - 2026/2027

Mode of Study: Full Time

Degree: Bachelor's degree

| Block Code | Course | Subject type | Department | Credits | Total Academic Hours | Contact Hours | Allocation of Contact Hours | | | | Additional Information |
|--|---|--------------|--|--------------|----------------------|---------------|-----------------------------|------------|------------|------------|------------------------|
| | | | | | | | 1 | 2 | 3 | 4 | |
| Degree Programme | | | | 60,00 | 2 442 | 974 | 230 | 182 | 290 | 312 | |
| Data Culture | | | | 3,00 | 114 | 64 | 56 | 2 | 2 | 4 | |
| 1 | Algorithms and Data Structures 2 | C | Department of Big Data and Information Retrieval | 3,00 | 114 | 56 | 56A | | | | |
| 2 | External Examinations on Digital Skills. Entry-level | C | отдел развития цифровых компетенций | | | 2 | | 2A | | | |
| 3 | External Examinations on Digital Skills. Final Level | C | отдел развития цифровых компетенций | | | 2 | | | | 2A | |
| 4 | External Examinations on Digital Skills. Intermediate Level | C | отдел развития цифровых компетенций | | | 2 | | | 2A | | |
| 5 | Independent Programming Test. Advanced Level | C | отдел развития цифровых компетенций | | | 2 | | | | 2A | Online Course |
| Major | | | | 44,00 | 1 672 | 658 | 126 | 128 | 208 | 236 | |
| Core Professional Block (Major) | | | | 32,00 | 1 216 | 522 | 98 | 100 | 168 | 156 | |
| Макроэкономика-1 | | | | 7,00 | 266 | 120 | | | 64 | 56 | |
| 1 | Macroeconomics 1 | E | Department of Theoretical Economics | 7,00 | 266 | 120 | | | 64 | 56A | |
| 2 | Macroeconomics-1 (advanced course) | E | Department of Theoretical Economics | 7,00 | 266 | 120 | | | 64 | 56A | |
| Микроэкономика-2 | | | | 6,00 | 228 | 86 | 42 | 44 | | | |
| 1 | Microeconomics-2 | E | Department of Theoretical Economics | 6,00 | 228 | 84 | 42 | 42A | | | Foreign language |
| 2 | Microeconomics-2 (advanced course) | E | Department of Theoretical Economics | 6,00 | 228 | 84 | 42 | 42A | | | Foreign language |
| Compulsory Courses | | | | 9,00 | 342 | 176 | 28 | 28 | 60 | 60 | |

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|--|--|---|--|--------------|------------|------------|-----------|-----------|-----------|-----------|------------------|
| 1 | Computer Architecture and Operating Systems | C | Department of Big Data and Information Retrieval | 6,00 | 228 | 120 | | | 60 | 60A | |
| 2 | Calculus 2 | C | Department of Big Data and Information Retrieval | 3,00 | 114 | 56 | 28 | 28A | | | Online Course |
| Probability and Math Statistics 1 | | | | 5,00 | 190 | 56 | 28 | 28 | | | |
| 1 | Probabilities Theory and Math Statistics 1 | E | Department of Applied Economics | 5,00 | 190 | 56 | 28 | 28A | | | |
| 2 | Probabilities Theory and Math Statistics 1 (Advanced course) | E | Department of Applied Economics | 5,00 | 190 | 56 | 28 | 28A | | | |
| Probability and Math Statistics 2 | | | | 5,00 | 190 | 84 | | | 44 | 40 | |
| 1 | Probability and Statistics 2 | E | Department of Applied Economics | 5,00 | 190 | 84 | | | 44 | 40A | |
| 2 | Probabilities and Math Statistics 2 (Advanced course) | E | Department of Applied Economics | 5,00 | 190 | 84 | | | 44 | 40A | |
| Elective Professional Block (Major) | | | | 12,00 | 456 | 136 | 28 | 28 | 40 | 80 | |
| Elective Courses | | | | 12,00 | 456 | 136 | 28 | 28 | 40 | 80 | |
| 1 | Discrete Mathematics 2 | E | Department of Big Data and Information Retrieval | 6,00 | 228 | 80 | | | 40 | 40A | |
| 2 | Differential and Difference Equations | E | Department of Mathematics | 6,00 | 228 | 56 | 28 | 28A | | | |
| 3 | Additional Chapters of Macroeconomics-1 | E | Department of Theoretical Economics | 3,00 | 114 | 40 | | | 20 | 20A | |
| 4 | Instrumental Methods for Digital Economics | E | Department of Mathematics | 6,00 | 228 | 56 | 28 | 28A | | | |
| 5 | Complex Analysis | E | Department of Big Data and Information Retrieval | 6,00 | 228 | 80 | | | 40 | 40A | |
| 6 | Fundamentals of Matrix Computations | E | Department of Big Data and Information Retrieval | 6,00 | 228 | 80 | | | 40 | 40A | |
| 7 | Essentials of Programming and Database | E | Department of Software Engineering | 3,00 | 114 | 40 | | | | 40A | |
| 8 | Modern Methods of Data Analysis | E | Department of Mathematics | 3,00 | 114 | 44 | | | | 44A | |
| 9 | Choice and Decision Theory | E | Department of Mathematics | 6,00 | 228 | 60 | 28 | 32A | | | Foreign language |
| 10 | Financial Markets | E | базовая кафедра инфраструктуры финансовых рынков | 3,00 | 114 | 44 | | | 44A | | |
| 11 | Financial Accounting and Reporting | E | Department of Finance | 6,00 | 228 | 80 | | | 40 | 40A | |
| 12 | Functional Analysis | E | Department of Big Data and Information Retrieval | 6,00 | 228 | 80 | | | 40 | 40A | |
| 13 | Digital Transformations in HR Management | E | Department of Applied Economics | 3,00 | 114 | 40 | | | 40A | | |
| 14 | Economic History | E | Department of Theoretical Economics | 3,00 | 114 | 40 | | | 40A | | |
| 15 | Economic thought of the XX-XXI centuries | E | Department of Theoretical Economics | 3,00 | 114 | 30 | | | | 30A | Online Course |
| 16 | Python Programming Language (advanced course) | E | Department of Big Data and Information Retrieval | 6,00 | 228 | 56 | 28 | 28A | | | |
| English | | | | | | | | | | | |
| Optional Courses | | | | | | | | | | | |

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|---------------------------------|-------------------|---|--|-------------|------------|------------|-----------|-----------|-----------|-----------|---|
| 1 | English Language | O | | 6,00 | 228 | 100 | 32 | 28 | 40A | | Foreign language, Credits only to the cumulative rating |
| General Courses | | | | 8,00 | 466 | 250 | 48 | 52 | 80 | 70 | |
| Optional General Courses | | | | 7,00 | 266 | 106 | 12 | 16 | 44 | 34 | |
| 1 | Russian History | C | School of History | 4,00 | 152 | 76 | 12 | 16A | 24 | 24A | Online Course |
| 2 | Legal Literacy | C | департамент теории права и сравнительного правоведения | 3,00 | 114 | 30 | | | 20 | 10A | Online Course |
| Core General Courses | | | | 1,00 | 200 | 144 | 36 | 36 | 36 | 36 | |
| 1 | Physical Training | C | Department of Physical Training | 1,00 | 200 | 144 | 28 | 28 | 44 | 44A | |
| Internship | | | | 5,00 | 190 | 2 | | | | 2 | |
| Project Internship | | | | 5,00 | 190 | 2 | | | | 2 | |
| 1 | Project | C | | 5,00 | 190 | 2 | | | | 2A | |

Curriculum agreed:

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|---|----------------|------------|
| Academic Supervisor | SAMONENKO I.Y. | 26.03.2024 |
| Dean | PEKARSKIY S.E. | 27.03.2024 |
| Head of Centre for Educational Model Design | LEPESHKIN I.A. | 26.04.2024 |

* Subject type:

Compulsory course

C

Elective course

E

Optional course

O