



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.03.02 Applied Mathematics and Information Science

Educational Programme "Computing and Data Science"

Specializations: "Industrial Programming", "Machine Learning and Applications"

Implementing unit: Faculty of Computer Science, HSE - Moscow
2 nd, 2024/2025 academic year

APPROVED

27.05.2024

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 | 1 058 | 254 | 212 | 304 | 288 | |
| Data Culture | | | | | | 6 | | 2 | | 4 | |
| 1 | External Examinations on Digital Skills. Entry-level | C | отдел развития цифровых компетенций | | | 2 | | 2A | | | |
| 2 | External Examinations on Digital Skills. Intermediate Level | C | отдел развития цифровых компетенций | | | 2 | | | | 2A | |
| 3 | Independent Programming Test. Advanced Level | C | отдел развития цифровых компетенций | | | 2 | | | | 2A | Online Course |
| Major | | | | 44,00 | 1 672 | 600 | 140 | 96 | 192 | 172 | |
| Core Professional Block (Major) | | | | 44,00 | 1 672 | 600 | 140 | 96 | 192 | 172 | |
| 1 | Algebra | C | Department of Big Data and Information Retrieval | 6,00 | 228 | 60 | 28 | 32A | | | |
| 2 | Algorithms and Data Structures 2 | C | Department of Big Data and Information Retrieval | 4,00 | 152 | 56 | 56A | | | | |
| 3 | Computer Architecture and Operating Systems | C | Department of Big Data and Information Retrieval | 8,00 | 304 | 120 | | | 60 | 60A | |
| 4 | Mathematical Statistics | C | Department of Big Data and Information Retrieval | 5,00 | 190 | 80 | | | 44 | 36A | |
| 5 | Calculus 2 | C | Department of Big Data and Information Retrieval | 9,00 | 342 | 144 | 28 | 32A | 44 | 40A | |
| 6 | Probability Theory | C | Department of Big Data and Information Retrieval | 5,00 | 190 | 60 | 28 | 32A | | | Online Course |
| 7 | Numerical Methods | C | Department of Big Data and Information Retrieval | 7,00 | 266 | 80 | | | 44 | 36A | |
| Minor | | | | 10,00 | 380 | 304 | 76 | 76 | 76 | 76 | |
| 1 | Minor | E | | 10,00 | 380 | 304 | 76 | 76A | 76 | 76A | |

| | | | | | | | | | | | |
|---|--------------------------------|---|---------------------------------|-------------|------------|------------|-----------|-----------|-----------|-----------|---|
| | English | | | | | | | | | | |
| | Optional Courses | | | | | | | | | | |
| 1 | English | O | | 6,00 | 228 | 100 | 32 | 28 | 40A | | Foreign language, Credits only to the cumulative rating |
| | General Courses | | | 1,00 | 200 | 144 | 36 | 36 | 36 | 36 | |
| | 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 | 4 | 2 | 2 | | | |
| | Project Internship | | | 5,00 | 190 | 2 | | 2 | | | |
| 1 | - | C | | 5,00 | 190 | 2 | | 2 | 2 | 2 | |
| | Professional Internship | | | | | 2 | 2 | | | | |
| 1 | Educational Internship | C | | | | 2 | 2A | | | | |

Curriculum agreed:

| | | |
|---|-----------------|------------|
| Academic Supervisor | PROMYSLOV V.V. | 11.04.2024 |
| Dean | ARZHANTSEV I.V. | 11.04.2024 |
| Head of Centre for Educational Model Design | LEPESHKIN I.A. | 22.05.2024 |

* Subject type:

Compulsory course
 Elective course
 Optional course

C
 E
 O