National Research University Higher School of Economics (HSE)

Curriculum
Field of study 01.03.02 Applied Mathematics and Information Science
Educational Programme "Data Science and Business Analytics"
Specializations: "Data Analysis in Applied Research", "Data Science in Business", "Data Science in Finance"
Implementing unit: Faculty of Computer Science, HSE - Moscow
2 nd, 2025/2026 academic year

Length of Programme: 4 years
Years of Study: 2024/2025 - 2027/2028
Mode of Study: Full Time
Degree: Bachelor's degree

| Block Code | Course | Subject type | Department | Period of execution | Credits | Total Academic Hours | Contact Hours | Allocation of Contact Hours | | | | Additional Information |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1 | 2 | 3 | 4 | |
| | **Degree Progamme** | | | | **60,00** | **2 442** | **1 134** | **224** | **240** | **424** | **246** | |
| | **Data Culture** | | | | | | **6** | | **2** | | **4** | |
| 1 | External Examinations on Digital Skills. Entry-level | C | отдел развития цифровых компетенций | | | | 2 | | 2A | | | Foreign language |
| 2 | External Examinations on Digital Skills. Intermediate Level | C | отдел развития цифровых компетенций | | | | 2 | | | | 2A | Foreign language |
| 3 | Independent Programming Test. Advanced Level | C | отдел развития цифровых компетенций | | | | 2 | | | | 2A | Online Course, Foreign language |
| | **Major** | | | | **41,00** | **1 558** | **858** | **168** | **182** | **340** | **168** | |
| | **Core Professional Block (Major)** | | | | **26,00** | **988** | **598** | **140** | **154** | **220** | **84** | |
| | **Core Professional Block (Major)** | | | | **26,00** | **988** | **598** | **140** | **154** | **220** | **84** | |
| 1 | Algorithms and Data Structures | C | Department of Big Data and Information Retrieval | | 6,00 | 228 | 192 | 56A | 56 | 80A | | Foreign language |
| 2 | Computer Architecture and Operating Systems | C | Department of Big Data and Information Retrieval | | 4,00 | 152 | 136 | | | 80 | 56A | Foreign language |
| 3 | Discrete Mathematics 2 | C | Department of Big Data and Information Retrieval | | 4,00 | 152 | 56 | 28 | 28A | | | Foreign language |
| 4 | Mathematical Statistics | C | Department of Big Data and Information Retrieval | | 4,00 | 152 | 88 | | | 60 | 28A | Online Course, Foreign language |
| 5 | Calculus 2 | C | Department of Big Data and Information Retrieval | | 4,00 | 152 | 56 | 28 | 28A | | | Foreign language |
| 6 | Probability Theory | C | Department of Big Data and Information Retrieval | | 4,00 | 152 | 70 | 28 | 42A | | | Online Course, Foreign language |
| | **Elective Professional Block (Major)** | | | | **15,00** | **570** | **260** | **28** | **28** | **120** | **84** | |
| | **Compulsory Courses** | | | | **15,00** | **570** | **260** | **28** | **28** | **120** | **84** | |
| 1 | Differential Equations | C | Department of Big Data and Information Retrieval | | 4,00 | 152 | 68 | | | 40 | 28A | Foreign language |
| 2 | Machine Learning 1 | C | Department of Big Data and Information Retrieval | | 4,00 | 152 | 68 | | | 40 | 28A | Foreign language |

| No | Subject | Type | Department | Period | Credits | Hours | | | | | | |
|----|---------|------|-----------|--------|---------|-------|---|---|---|---|---|---|
| 3 | Introduction to Micro and Macroeconomics | C | Department of Big Data and Information Retrieval | | 7,00 | 266 | 124 | 28 | 28A | 40 | 28A | Foreign language |
| | **Minor** | | | | **10,00** | **380** | **124** | **28** | **28** | **40** | **28** | |
| 1 | Minor | E | | | 10,00 | 380 | 124 | 28 | 28A | 40 | 28A | Foreign language |
| | **General Courses** | | | | **1,00** | **200** | **144** | **28** | **28** | **44** | **44** | |
| | **Core General Courses** | | | | **1,00** | **200** | **144** | **28** | **28** | **44** | **44** | |
| 1 | Physical Training | C | Department of Physical Training | | 1,00 | 200 | 144 | 28 | 28 | 44 | 44A | Foreign language |
| | **Internship** | | | | **8,00** | **304** | **2** | | | | **2** | |
| | **Project Internship** | | | | **5,00** | **190** | **2** | | | | **2** | |
| 1 | Programming Project 1 | C | | F | 5,00 | 190 | 2 | | | | 2A | Foreign language |
| | **Professional Internship** | | | | **3,00** | **114** | | | | | | |
| 1 | Educational Internship | C | | F | 3,00 | 114 | | | | | | Foreign language |

*Curriculum agreed:*

| | | |
|---|---|---|
| Academic Supervisor | Вознесенская Т.В. | 23.05.2025 |
| Dean | ARZHANTSEV I.V. | 23.05.2025 |
| Head of Centre for Educational Model Design | LEPESHKIN I.A. | 06.06.2025 |

* Subject type:
Compulsory course      C
Elective course      E

Period of execution:

Fixed      F