



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.03.02 Applied Mathematics and Information Science,
38.03.05 Business Informatics,
09.03.04 Software Engineering

Educational Programme "Computer Science and Technologies"
Specializations: "Computer Science and Optimization",
"Decision Support Information Systems", "Design and Development of Enterprise Information Systems", "Development and Maintenance of High-load Systems", "Industrial IoT",
"Requirements Management and Information Systems Integration in Business"

Implementing unit: Faculty of Informatics, Mathematics and Computer Sciences, HSE - Nizhny Novgorod

1 st, 2023/2024 academic year

APPROVED

23.05.2023

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 | 2 480 | 1 046 | 242 | 172 | 332 | 300 | |
| Data Culture | | | | | | 2 | | | | 2 | |
| 1 | Independent Digital Literacy Test | C | отдел развития цифровых компетенций | | | 2 | | | | 2A | Online Course |
| Major | | | | 53,00 | 2 014 | 766 | 154 | 140 | 252 | 220 | |
| Core Professional Block (Major) | | | | 49,00 | 1 862 | 714 | 154 | 140 | 220 | 200 | |
| 1 | Algorithms and Data Structures | C | Joint Department with MERA Group | 8,00 | 304 | 112 | | 28 | 44A | 40A | |
| 2 | Discrete Mathematics | C | Department of Applied Mathematics and Information Science | 8,00 | 304 | 140 | 28 | 28A | 44 | 40A | |
| 3 | Linear Algebra and Geometry | C | Department of Mathematics | 8,00 | 304 | 100 | 28 | 28A | 44A | | |
| 4 | Calculus | C | Department of Applied Mathematics and Information Science | 8,00 | 304 | 140 | 28 | 28A | 44 | 40A | |
| 5 | General Algebra | C | Department of Fundamental Mathematics | 5,00 | 190 | 40 | | | | 40A | |
| 6 | C/C++ Programming | C | Joint Department with MERA Group | 8,00 | 304 | 140 | 28 | 28A | 44 | 40A | |

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|--|---|---|--|-------------|------------|------------|-----------|-----------|-----------|-----------|---|
| 7 | Software Engineering | C | Department of Data Systems and Technologies | 4,00 | 152 | 42 | 42A | | | | Online Course |
| Elective Professional Block (Major) | | | | 4,00 | 152 | 52 | | | 32 | 20 | |
| Research Seminar and/or Project Seminar | | | | 4,00 | 152 | 52 | | | 32 | 20 | |
| 1 | Research Seminar "Introduction in Specialty" | C | Department of Data Systems and Technologies | 2,00 | 76 | 20 | | | | 20A | |
| 2 | Scientific-Practical Seminar "Digital Literacy" | C | Department of Data Systems and Technologies | 2,00 | 76 | 32 | | | 32A | | Online Course |
| English | | | | | | 2 | | | | 2 | |
| Optional Courses | | | | | | | | | | | |
| 1 | English | O | | 8,00 | 304 | 128 | 20 | 28A | 40 | 40A | Foreign language, Credits only to the cumulative rating |
| Examinations | | | | | | 2 | | | | 2 | |
| 1 | English Language Integrative Exam | C | Департамент иностранных языков | | | 2 | | | | 2A | |
| General Courses | | | | 7,00 | 466 | 276 | 88 | 32 | 80 | 76 | |
| Optional General Courses | | | | 6,00 | 228 | 126 | 54 | | 36 | 36 | |
| 1 | Russian History | C | School of History | 4,00 | 152 | 72 | | | 36 | 36A | Online Course |
| 2 | Foundations of Russian Statehood | C | School of History | 2,00 | 76 | 54 | 54A | | | | |
| Core General Courses | | | | 1,00 | 238 | 150 | 34 | 32 | 44 | 40 | |
| 1 | Safe Living Basics | C | Department of General and Strategic Management | 1,00 | 38 | 6 | 6A | | | | Online Course |
| 2 | Physical Training | C | Department of Physical Training | | 200 | 144 | 28 | 32A | 44 | 40A | |

Curriculum agreed:

| | | |
|---|----------------|------------|
| Academic Supervisor | ULITIN B.I. | 05.05.2023 |
| Dean | ASEEVA N.V. | 05.05.2023 |
| Deputy Director | FOMENKOV D.A. | 09.05.2023 |
| Head of Centre for Educational Model Design | LEPESHKIN I.A. | 19.05.2023 |

* Subject type:

Compulsory course

C

Optional course

O