



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 06.03.01 Biology

Educational Programme "Cellular and Molecular  
Biotechnologies"

Implementing unit: Faculty of Biology and Biotechnology, HSE -  
Moscow

1 st, 2023/2024 academic year

APPROVED

12.07.2023

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          |                        |
| <b>Degree Programme</b>                |   |              |   | <b>60,00</b> | <b>2 480</b>         | <b>1 260</b>  | <b>324</b>                  | <b>276</b> | <b>316</b> | <b>344</b> |                        |
| <b>Data Culture</b>                    |   |              |   |              |                      | <b>2</b>      |                             |            |            | <b>2</b>   |                        |
| 1                                      | Independent Digital Literacy Test                               | C            | отдел развития цифровых компетенций   |              |                      | 2             |                             |            |            | 2A         | Online Course          |
| <b>Major</b>                           |   |              |   | <b>47,00</b> | <b>1 786</b>         | <b>930</b>    | <b>182</b>                  | <b>204</b> | <b>260</b> | <b>284</b> |                        |
| <b>Core Professional Block (Major)</b> |   |              |   | <b>40,00</b> | <b>1 520</b>         | <b>806</b>    | <b>182</b>                  | <b>204</b> | <b>196</b> | <b>224</b> |                        |
| <b>Basic Components</b>                |   |              |   | <b>40,00</b> | <b>1 520</b>         | <b>806</b>    | <b>182</b>                  | <b>204</b> | <b>196</b> | <b>224</b> |                        |
| 1                                      | Invertebrate Zoology  | C            | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 5,00         | 190                  | 88            | 42                          | 46A        |            |            |                        |
| 2                                      | Vertebrate Zoology  | C            | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 5,00         | 190                  | 72            |                             |            |            | 72A        |                        |
| 3                                      | Linear Algebra  | C            | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 4,00         | 152                  | 80            |                             |            | 40         | 40A        |                        |
| 4                                      | Mathematical Analysis with the Basics of Differential Equations | C            | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 7,00         | 266                  | 140           | 28                          | 32         | 40A        | 40A        |                        |
| 5                                      | General and Inorganic Chemistry                                 | C            | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 6,00         | 228                  | 158           | 76                          | 82A        |            |            |                        |

|  |  |   |   |             |            |            |            |           |           |           |   |
|--|--|---|---|-------------|------------|------------|------------|-----------|-----------|-----------|---|
| 6  | Organic Chemistry                        | C | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 5,00        | 190        | 132        |            |           | 60        | 72A       |   |
| 7  | Structural and Evolutionary Botany       | C | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 4,00        | 152        | 56         |            |           | 56A       |           |   |
| 8  | Physics                                  | C | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 4,00        | 152        | 80         | 36         | 44A       |           |           |   |
| <b>Elective Professional Block (Major)</b> |  |   |   | <b>7,00</b> | <b>266</b> | <b>124</b> |            |           | <b>64</b> | <b>60</b> |   |
| <b>Basic Profile Part</b>                  |  |   |   | <b>7,00</b> | <b>266</b> | <b>124</b> |            |           | <b>64</b> | <b>60</b> |   |
| 1  | Cell Biology: the Basics of Bioprocesses | C | базовая кафедра Института биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН | 7,00        | 266        | 124        |            |           | 64        | 60A       |   |
| <b>English</b>                             |  |   |   |             |            | <b>2</b>   |            |           |           | <b>2</b>  |   |
| <b>Optional Courses</b>                    |  |   |   |             |            |            |            |           |           |           |   |
| 1  | English Language                         | O |   | 8,00        | 304        | 128        | 20         | 28A       | 40        | 40A       | Foreign language, Credits only to the cumulative rating |
| <b>Examinations</b>                        |  |   |   |             |            | <b>2</b>   |            |           |           | <b>2</b>  |   |
| 1  | English Language Integrative Exam        | C | School of Foreign Languages   |             |            | 2          |            |           |           | 2A        | Foreign language  |
| <b>General Courses</b>                     |  |   |   | <b>6,00</b> | <b>428</b> | <b>246</b> | <b>122</b> | <b>52</b> | <b>36</b> | <b>36</b> |   |
| <b>Optional General Courses</b>            |  |   |   | <b>5,00</b> | <b>190</b> | <b>84</b>  | <b>68</b>  | <b>16</b> |           |           |   |
| 1  | Foundations of Russian Statehood         | C | School of History   | 2,00        | 76         | 54         | 54A        |           |           |           |   |
| 2  | Economics                                | C | Department of Theoretical Economics   | 3,00        | 114        | 30         | 14         | 16A       |           |           | Online Course   |
| <b>Core General Courses</b>                |  |   |   | <b>1,00</b> | <b>238</b> | <b>162</b> | <b>54</b>  | <b>36</b> | <b>36</b> | <b>36</b> |   |
| 1  | Safe Living Basics                       | C | центр поддержки студенческих инициатив  | 1,00        | 38         | 18         | 18A        |           |           |           | Online Course   |
| 2  | Physical Training                        | C | Department of Physical Training   |             | 200        | 144        | 36         | 36        | 36        | 36A       |   |
| <b>Internship</b>                          |  |   |   | <b>7,00</b> | <b>266</b> | <b>80</b>  | <b>20</b>  | <b>20</b> | <b>20</b> | <b>20</b> |   |
| <b>Professional Internship</b>             |  |   |   | <b>7,00</b> | <b>266</b> | <b>80</b>  | <b>20</b>  | <b>20</b> | <b>20</b> | <b>20</b> |   |
| 1  | Educational Internship                   | C |   | 7,00        | 266        | 80         | 20         | 20        | 20        | 20A       |   |

**Curriculum agreed:**

|   |                  |            |
|---|------------------|------------|
| Academic Supervisor                         | STEPANOVA E.V.   | 11.07.2023 |
| Dean  | TONEVITSKIY A.G. | 11.07.2023 |
| Head of Centre for Educational Model Design | LEPESHKIN I.A.   | 11.07.2023 |

\* Subject type:

Compulsory course

Elective course

Optional course

C  
E  
O