Master Program: Construction

Field of Studies: Production of building materials, products and structures

Years of Studies: 2

Language of Training: Russian

| **№** | **Subject** | **Semester** | **Hours** | **Credits** |
| --- | --- | --- | --- | --- |
| **M.1.1 Mandatory part of Block 1** | | | | |
| M.1.1.1 | Psychology. Social communications | 1 | 108 | 3 |
| M.1.1.3 | Business Foreign Language | 1 | 108 | 3 |
| M.1.1.3 | Applied Mathematics | 2 | 108 | 3 |
| M.1.1.4 | Basic research | 1 | 108 | 3 |
| M.1.1.5 | Organization and management of production activities | 2 | 108 | 3 |
| M.1.1.6 | Organization of design and survey activities | 1 | 108 | 3 |
|  | **TOTAL mandatory part** |  | **648** | **18** |
| **M.1.2** | **The variable part of Block 1** |  | **1188** | **33** |
| M.1.2.1 | The language of business communication | 2 | 72 | 2 |
| M.1.2.2 | Design of building materials and products technology | 2,3 | /396 | /11 |
| M.1.2.2 | Design of building materials and products technology | 2 | 216 | 6 |
| M.1.2.2 | Design of building materials and products technology | 3 | 180 | 5 |
| M.1.2.3 | Organization of production of building materials and products | 1 | 144 | 4 |
| M.1.2.4 | The scientific basis for the development of highly functional concrete | 1 | 144 | 4 |
| M.1.2.5 | Technical expertise in construction | 3 | 216 | 6 |
| M.1.2.6 | Fundamentals of business | 3 | 72 | 2 |
| M.1.2.7 | Technical regulation in construction | 1 | 72 | 2 |
| M.1.2.8 | Information modeling of construction projects life cycle | 3 | 72 | 2 |
| **M.1.3** | **Electives** |  | **468** | **13** |
| M.1.3.1.1 | Philosophical problems of engineering creativity and construction activities | 2 | 72 | 2 |
| M.1.3.1.2 | Ethics and Aesthetics of engineering | 2 | /72 | / 2 |
| M.1.3.2.1 | Nanostructured composite building materials | 3 | 216 | 6 |
| M.1.3.2.2 | Physical and chemical processes in building materials | 3 | / 216 | / 6 |
| M.1.3.3.1 | The methodology and the modern concept of development of building materials | 1 | 180 | 5 |
| M.1.3.3.2 | The best available technology in the production of building materials | 1 | /180 | /5 |
|  | **Total variable part** |  | **1656** | **46** |
|  | **Total Block B.1** |  | **2304** | **64** |
| **M.2.2** | **The variable part of the Block 2** |  | **1800** | **50** |
| M.2.2.1 | Training (Trial) Practice | 2 | 216 | 6 |
| M.2.2.2 | Proizvodstvvennaya (design) practice | 4 | 108 | 3 |
| M.2.2.3 | Industrial (technological) Practice | 4 | 216 | 6 |
| M.2.2.4 | Undergraduate practice | 4 | 216 | 6 |
| M.2.2.5 | **Research work** | 1-4 | **1044** | **29** |
| M.2.2.5 | Research work | 1 | 144 | 4 |
| M.2.2.5 | Research work | 2 | 216 | 6 |
| M.2.2.5 | Research work | 3 | 252 | 7 |
| M.2.2.5 | Research work | 4 | 432 | 12 |
| **M.3.1** | **State final examination** |  | **216** | **6** |
| **M.3.1.1** | **Preparations for the protection and defense of the Graduation Qualification Work** | 4 | **216** | **6** |
|  | **Total direction** |  | **4320** | **120** |
| **F.** | **Elective** |  |  |  |
| F.2 | Protective coatings of structures and technology of their devices | 3 | 108 | 3 |
| F.3 | Special civil engineering technology | 2 | 108 | 3 |