**Часть 1 (формальная)**

**Паспорт программы**

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| **Направление подготовки (специальность)**  **Direction** | 09.04.04 Software engineering |
| **Профиль / программа**  **Major** | Modern problems of software engineering |
| **Форма обучения**  **Program mode** | *Intramural* |
| **Нормативный срок обучения**  **Requiredduration** | *2* |
| **Трудоемкость**  **Credit value** | *120 / 4320* |
| **Языкобучения**  **Language of instruction** | *English* |
| **Минимальные требования к предыдущему образованию**  **Eligibilityrequirements** | *Bachelor degree or equivalent* |
| **Минимальные языковые требования**  **Minimal language requirements** | *Intermediate level of English* |
| **Вступительные испытания**  **Entrance examination** | *Oral qualifying exam* |
| **Присваиваемаяквалификацияилистепень**  **Qualification / degree awarded upon graduation** | *Master of Science* |
| **ФИОиконтактыкуратора**  **Full name and contacts of a person in charge** | *Olga N. Petukhova, . +74957885699, ext. 8045,*  [*ONPetukhova@mephi.ru*](mailto:ONPetukhova@mephi.ru)  *Andrey M. Zagrebayev, +74957885699, ext. 9379,*  *AMZagrebayev@mephi.ru* |

**Примерный учебный план**

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| **Семестр**  **Term** | **Дисциплина (учебный курс)**  **Course** | **Трудоемкость (з.е.)**  **Credit value** |
| *1* | *Fundamentals of Automated Information Technologies* | *5* |
| *1* | *Mathematical models of physical processes* | *2* |
| *1* | *Securecomputernetworks* | *2* |
| *1* | *The basics of WEB-programming* | *3* |
| *1* | *FunctionalProgramming* | *3* |
| *1-4* | *Foreignlanguage* | *6* |
| *1-4* | *Researchproject* | *31* |
| *2* | *MethodologyofScientificResearch* | *3* |
| *2* | *Object-orientedprogramming* | *3* |
| *2-3* | *Information security of open systems* | *5* |
| *2* | *DiscreteMathematics (ComputationalModels)* | *7* |
| *3* | *Projectmanagement* | *3* |
| *3* | *Data Science and Big Data Analytics* | *9* |
| *3* | *BusinessIntelligenceandAnalytics* | *9* |
| *3* | *Data Mining and Machine Learning with Applications in Cybersecurity* | *9* |
| *3* | *Biologicallyinspiredcognitivearchitectures* | *3* |
| *3* | *Information Storage and Management (Storage Technologies)* | *3* |
| *4* | *Pedagogicalpractice* | *3* |
| *4* | *Informationtechnologymanagement* | *3* |
| *4* | *SoftwareLifecycleManagement* | *3* |

**Часть 2 (рекламно-информационная)**

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| **Общая информация о программе**  **Basicinformation** | *The program devoted to master training with special background in the field of cybernetic system development technologies, with the main intension of supplying staff to organizations in high-tech fields of science and industry.* |
| **Приобретаемые компетенции**  **Acquirements** | *The masters develop the following competencies that allows them to grow constantly in the different field of professional activities:*   * *introducing new information technologies to the organization infrastructure;* * *business consulting and engineering;* * *Methods and algorithms for data processing in data-processing systems;* * *high-performance and distributed data-processing system;* * *Industrial testing of software;* * *Programming languages and compilers;* * *Network protocols and network services.* |
| **Конкурентные преимущества**  **Competitivestrengths** | *Along with all disciplines required by the federal standards, students are additionally trained in various fields of discrete mathematics, database systems and technologies, various cybernetic systems development technologies, models of physical processes in nuclear systems. Student participation in research activities, with qualifying works being made and presented, is mandatory.* |
| **Область профессиональной деятельности и трудоустройство**  **Careeropportunities** | *The professional line includes design and implementation, as well as maintenance, of information systems and software products in the field of software engineering and computer science for state, industrial and commercial organizations:*   * *computing centers and data centers;* * *scientific-industrial corporations;* * *high-school education centers* |