**Working curriculum**

Specialty: 1304000 - "Computer hardware and software"

Qualification: 130401 2 - "Digital information processing specialist"

**Form of study: full-time**

**Normative period of training: 2 years 10 months**

**On the basis of basic secondary education**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Index** | **Name of cycles, disciplines, modules, experiments** | **Form of control** | | | **Amount of study time (hours)** | | | | | | | | | | | | | **Semi-annuals** |
| **Exams** | **Test** | **Control work** | **Total** | **Including** | | | **Courses** | | | Courses and semesters | | | | | |
| **Theoretical** | **Practical** | **Production** | **1 course** | **2 course** | **3 course** | **1**  **course** | | **2 course** | | **3 course** | |
| **1 semester** | **2 semester** | **3 semester** | **4 semester** | **5 semester** | **6 semester** |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |  | 12 | 13 | 14 | 15 |  |  | 16 |
| **GS** | **General subjects** |  |  |  | **1448** | **1140** | **308** | **-** | **1232** | **216** | **-** | **600** | **632** | **180** | **36** | **-** | **-** | **1,2,3,4** |
| **GS.01** | **Compulsory subjects** |  |  |  | **1028** | **792** | **236** | **-** | **908** | **120** | **-** | **428** | **480** | **84** | **36** | - | - | 1,2,3,4 |
| GS.01.01 | Kazakh language | - | 1 | - | 60 | 60 | - | - | 60 | - | - | 28 | 32 | - | - | - | - | 1,2 |
| GS.01.02 | Kazakh literature | 2 | - | 2 | 60 | 60 | - | - | 60 | - | - | 28 | 32 | - | - | - | - | 1,2 |
| GS.01.03 | Russian language and literature | 2 | - | 2 | 120 | 120 | - | - | 120 | - | - | 56 | 64 | - | - | - | - | 1,2 |
| GS.01.04 | Foreign language | - | 2 | - | 120 | 120 | - | - | 120 | - | - | 56 | 64 | - | - | - | - | 1,2 |
| GS.01.05 | History of Kazakhstan | 2 | - | 2 | 90 | 90 | - | - | 90 | - | - | 43 | 47 | - | - | - | - | 1,2 |
| GS.01.06 | Self-knowledge | - | 2 | - | 60 | 60 | - | - | 60 | - | - | 28 | 32 | - | - | - | - | 1,2 |
| GS.01.07 | Mathematics | 3 | - | 2 | 180 | 180 | - | - | 140 | 40 | - | 66 | 74 | 40 | - | - | - | 1,2,3 |
| GS.01.08 | Computer science | - | 2 | - | 90 | 40 | 50 | - | 90 |  | - | 43 | 47 | - | - | - | - | 1,2 |
| GS.01.09 | Physical education | 3 | - | - | 158 | 2 | 156 | - | 114 | 44 | - | 56 | 58 | 44 | - | - | - | 1,2 |
| GS.01.10 | Basic military and technical training | - | 4 | - | 90 | 60 | 30 | - | 54 | 36 | - | 24 | 30 | - | 36 | - | - | 1,2,4 |
| **GS.02** | **Advanced level** |  |  |  | **300** | **252** | **48** | **-** | **240** | **60** | **-** | **112** | **128** | **60** | - | - | - | 1,2,3 |
| GS.02.01 | Physics | 3 | - | 2 | 150 | 122 | 28 | - | 120 | 30 | - | 56 | 64 | 30 | - | - | - | 1,2,3 |
| GS.02.02 | Chemistry | 3 | - | 2 | 150 | 130 | 20 | - | 120 | 30 | - | 56 | 64 | 30 | - | - | - | 1,2,3 |
| **GS.03** | **Standard level** |  |  |  | **120** | **96** | **24** | - | **84** | **36** | **-** | **60** | **24** | **36** | - | - | - | 1,2,3 |
| GS.03.01 | Biology | - | 3 | - | 60 | 36 | 24 | - | 42 | 18 | - | 30 | 12 | 18 | - | - | - | 1,2,3 |
| GS.03.02 | Geography | - | 2 | - | 60 | 60 | - | - | 42 | 18 | - | 30 | 12 | 18 | - | - | - | 1,2,3 |
| **БМ** | **Basic modules** |  |  |  | **510** | **108** | **402** | **-** | **-** | **450** | **60** | **-** | **-** | **252** | **198** | **34** | **26** | **3,4,5,6** |
| **BМ.01** | **Use of professional vocabulary in the field of professional activity** |  |  |  | **144** | **-** | **144** | - | - | **144** | - | - | - | **72** | **72** | - | - | 3,4 |
| BМ.01.01 | Professional Kazakh (Russian) language | - | 4 | 1 | 72 | - | 72 | - | - | 72 | - | - | - | 36 | 36 | - | - | 3,4 |
| BМ.01.02 | Professional foreign language | - | 4 | 1 | 72 | - | 72 | - | - | 72 | - | - | - | 36 | 36 | - | - | 3,4 |
| **BМ.02** | **Compilation of documents in the state language** |  |  |  | **72** | **72** | **-** | **-** | **-** | **72** | **-** | **-** | **-** | **34** | **38** | **-** | **-** | 3,4 |
| BМ.02.01 | Record keeping in the state language | - | 4 | - | **72** | **72** | **-** | **-** | **-** | **72** | **-** | **-** | **-** | **34** | **38** | - | - | 3,4 |
| **BМ.03** | **Development and improvement of physical properties** |  |  |  | **102** | **-** | **102** | **-** | **-** | **42** | **60** | **-** | **-** | **34** | **8** | **34** | **26** | **3,4,5,6** |
| BМ.03.01 | Physical education | - | - | - | 102 | **-** | 102 | **-** | **-** | 42 | 60 | **-** | **-** | 34 | 8 | 34 | 26 | 3,4,5,6 |
| **BМ.04** | **Entrepreneurship Fundamentals** |  |  |  | **36** | **-** | **36** | **-** | **-** | **36** | **-** | **-** | **-** | **-** | **36** | **-** | **-** | **4** |
| BМ.04.01 | Entrepreneurship Fundamentals | - | - | - | 36 | - | 36 | - | - | 36 | **-** | - | - | - | 36 | **-** | **-** | 4 |
| **BМ.05** | **Application of methods of design and automated information processing and use of computer equipment, transmission and use of information** |  |  |  | **156** | **36** | **120** | - | - | **156** | - | - | - | **112** | **44** | - | - | **3,4** |
| BМ.05.01 | Basics of higher and discrete mathematics | 4 | - | 1 | 90 | 14 | 76 | - | - | 90 | - | - | - | 46 | 44 | - | - | 3,4 |
| BМ.05.02 | Numerical methods | - | - | 1 | 66 | 22 | 44 | - | - | 66 | - | - | - | 66 | - | - | - | 3 |
|  | **130401 2 - Qualification "Digital information processing specialist"** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **PМ** | **Professional modules** |  |  |  | **2218** | **506** | **524** | **1188** | **-** | **300** | **-** | **-** | **-** | **300** | **-** | **-** | **-** |  |
| **PМ.01** | **Observance of labor legislation and safety in professional activity** |  |  |  | **72** | **36** | **-** | **36** | **72** | **-** | **-** | **-** | **72** | **-** | **-** | **-** | **-** | **2** |
| PМ.01.01 | Occupational safety and health safety | - | 3 | - | 36 | 36 | - | - | 36 | - | - | - | 36 | - | - | - | - | 2 |
| PМ.01.02 | Educational practice | - | - | - | 36 | - | - | 36 | 36 | - | - | - | 36 | - | - | - | - | 2 |
| **PМ.02** | **Preparation for work, adjustment and maintenance of computer software and information, as well as software testing** |  |  |  | **226** | **84** | **142** | **-** | **76** | **150** |  |  | **76** | **150** |  |  |  | **2,3** |
| PМ.02.01 | Computer software and operating systems | - | 3 | 1 | 100 | 40 | 60 | - | 40 | 60 | - | - | 40 | 60 | - | - | - | 2,3 |
| PМ.02.02 | Information support of computer equipment | - | 3 | 2 | 82 | 28 | 54 | - | 36 | 46 | - | - | 36 | 46 | - | - | - | 2,3 |
| PМ.02.03 | Operation and maintenance of computer equipment | - | 3 | 1 | 44 | 16 | 28 | - | - | 44 | - | - |  | 44 | - | - | - | 3 |
| **PМ.03** | **Development and processing of text documents, tables, presentations, content databases, digital video objects, multimedia, graphics editing tools and software for office applications** |  |  |  | **528** | **96** | **108** | **324** |  | **528** |  |  |  |  | **528** |  |  | **4** |
| PМ.03.01 | Application software packages | - | 4 | 1 | 56 | 26 | 30 | - | - | 56 | - | - | - | - | 56 | - | - | 4 |
| PМ.03.02 | Programming in office applications | - | 4 | 1 | 52 | 24 | 28 | - | - | 52 | - | - | - | - | 52 | - | - | 4 |
| PМ.03.03 | Computer graphics | - | 4 | 2 | 96 | 46 | 50 | - | - | 96 | - | - | - | - | 96 | - | - | 4 |
| PМ.03.04 | Industrial training | - | - | - | 324 | - | - | 324 | - | 324 | - | - | - | - | 324 | - | - | 4 |
| **PМ.04** | **Development of components of design and technical documentation with the use of graphical features** |  |  |  | **600** | **118** | **122** | **360** |  | **60** | 484 |  |  |  | **60** | **346** | **194** | **4,5,6** |
| PМ.04.01 | Algorithms and programming | 6 |  | 2 | 74 | 40 | 34 |  |  | 24 | 50 |  |  |  | 24 | 50 |  | 4,5 |
| PМ.04.02 | Object-oriented programming | 6 |  | 2 | 110 | 52 | 58 |  |  | 36 | 74 |  |  |  | 36 | 50 | 24 | 4,5,6 |
| PМ.04.03 | Software development technology design |  | 5 | 1 | 56 | 26 | 30 |  |  |  | 56 |  |  |  |  | 42 | 14 | 5,6 |
| PМ.04.04 | Industrial training |  |  |  | 360 |  |  | 360 |  |  | 360 |  |  |  |  | 204 | 156 | 5,6 |
| **PМ.05** | **Creating a web page using Web technology** |  |  |  | **198** | **96** | **102** |  |  |  | **198** |  |  |  |  | **44** | **154** | **5,6** |
| PМ.05.01 | Web programming and Internet technologies |  | 5 | 2 | 102 | 50 | 52 |  |  |  | 102 |  |  |  |  | 44 | 58 | 5,6 |
| PМ.05.02 | Industrial training (Web programming and Internet technologies) |  | 5 | 2 | 96 | 46 | 50 |  |  |  | 96 |  |  |  |  |  | 96 | 6 |
| **PМ.06** | **Perform practical work of the electronic computer operator** |  |  |  | **468** |  |  | **468** |  |  | **468** |  |  |  |  | **108** | **360** | **5,6** |
| PМ.06.01 | Professional practice for obtaining the qualification of "computer operator" |  |  |  | 468 |  |  | 468 |  |  | 468 |  |  |  |  | 108 | 360 | 5,6 |
| **EODM** | **Educational organization defines a module** |  |  |  | **126** | **76** | **50** |  |  |  | **126** |  |  |  |  | **68** | **58** | **5,6** |
| **EODM.01** | Three-dimensional graphics and multimedia technology |  | 5 | 2 | 126 | 76 | 50 |  |  |  | 126 |  |  |  |  | 68 | 58 | 5,6 |
| **IC** | Intermediate certification |  |  |  | 108 |  |  |  | 60 | 36 | 12 | 12 | 48 | 24 | 12 | 12 |  |  |
| **FC** | Final certification |  |  |  | 36 |  |  |  |  |  | 36 |  |  |  |  |  | 36 |  |
| **CSS** | **Compulsory study set** |  |  |  | **4320** |  |  |  | **1440** | **1440** | **1440** | **612** | **828** | **612** | **828** | **612** | **828** |  |
| **C** | Consultation |  |  |  | 300 |  |  |  | 100 | 100 | 100 | 34 | 66 | 34 | 66 | 34 | 66 |  |
| **OL** | Optional lessons |  |  |  | 340 |  |  |  | 140 | 140 | 60 | 68 | 72 | 68 | 72 | 34 | 26 |  |
|  | **Total:** |  |  |  | **4960** |  |  |  | **1680** | **1680** | **1600** | **714** | **966** | **714** | **966** | **680** | **920** |  |

Basis: Annex 34 to the Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2017 №553

State exam: 1. Algorithmics and programming;

2. Object-oriented programming.

Deputy Director for Training and Production: Zh. Aktore

Deputy Director for Academic Affairs: K. Oralbek