Bachelor Program: Technosphere safety

Institute: Institute of Urban Planning, Architecture & Civil Engineering

Study Program: Emergency protection, industrial and fire safety, labor protection

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| **№** | **Subject** | **Semester** | **Hours** | **Credits** |
|  | **Basic part** |  |  |  |
| B.1.1.1 | History | 1 | 108 | 3 |
| B.1.1.2 | Philosophy | 5 | 108 | 3 |
| B.1.1.3 | Foreign language | 1-3 | 288 | 8 |
| B.1.1.4 | Economy | 4 | 108 | 3 |
| B.1.1.5 | Higher mathematics | 1-4 | 576 | 16 |
| B.1.1.6 | Computer science | 1, 2 | 216 | 6 |
| B.1.1.7 | Physics | 1-3 | 360 | 10 |
| B.1.1.8 | Theory of Combustion and Explosion | 5 | 180 | 5 |
| B.1.1.9 | Chemistry | 1-3 | 360 | 10 |
| B.1.1.10 | Ecology | 1 | 108 | 3 |
| B.1.1.11 | Hazard science | 2 | 108 | 3 |
| B.1.1.12 | Engineering graphics (plotting) | 1 | 72 | 2 |
| B.1.1.13 | Descriptive geometry and computer graphics | 2 | 108 | 3 |
| B.1.1.14 | Mechanics | 3 | 288 | 8 |
| B.1.1.15 | Thermophysics | 6 | 108 | 3 |
| B.1.1.16 | Fluid and gas dynamics | 5 | 108 | 3 |
| B.1.1.17 | Electronics and electrical engineering | 5 | 108 | 3 |
| B.1.1.18 | Metrology, standardization and certification | 7 | 144 | 4 |
| B.1.1.19 | Security oversight | 4 | 144 | 4 |
| B.1.1.20 | Life safety | 3 | 108 | 3 |
| B.1.1.21 | Biomedical foundations of life safety | 7 | 108 | 3 |
| B.1.1.22 | Reliability of technical systems and technological risk | 6 | 180 | 5 |
| B.1.1.23 | Technosphere safety management | 7 | 108 | 3 |
| B.1.1.24 | Legal support of industrial safety and labor protection | 3 | 108 | 3 |
| B.1.1.25 | Physical culture | 1 | 72 | 2 |
|  | **Variable part** |  |  |  |
| B.1.2.1 | History of science and technology | 2 | 72 | 2 |
| B.1.2.2 | Philosophy of science and technology | 6 | 72 | 2 |
| B.1.2.3 | Mathematical methods of processing the results of a scientific experiment | 3 | 144 | 4 |
| B.1.2.4 | Biochemistry | 6 | 108 | 3 |
| B.1.2.5 | Organic chemistry | 4 | 144 | 4 |
| B.1.2.6 | Physico-chemical processes in the technosphere | 5 | 180 | 5 |
| B.1.2.7 | Industrial ecology | 4 | 180 | 5 |
| B.1.2.8 | Emergency safety | 6 | 180 | 5 |
| B.1.2.9 | Environment monitoring | 7 | 144 | 4 |
| B.1.2.10 | Project expertise | 5 | 108 | 3 |
| B.1.2.11 | Environment protection systems | 7, 8 | 252 | 7 |
| B.1.2.12 | Theory and methods of risk analysis of complex technical systems | 7, 8 | 288 | 8 |
| B.1.2.13 | Greening of technologies and waste-free production | 7, 8 | 180 | 5 |
| B.1.2.14 | Xenobiotics | 8 | 108 | 3 |
|  | **Elective courses** |  |  |  |
| B.1.3.1.1 | Psychology | 1 | 108 | 3 |
| B.1.3.1.2 | Engineering psychology | /1 | /108 | /3 |
| B.1.3.2.1 | History of Russian culture | 1 | 72 | 2 |
| B.1.3.2.2 | World cultural heritage | /1 | /72 | /2 |
| B.1.3.3.1 | System analysis and modeling of processes in the technosphere | 6 | 180 | 5 |
| B.1.3.3.2 | Theory of systems analysis and decision making | /6 | /180 | /5 |
| B.1.3.4.1 | Human physiology | 4 | 72 | 2 |
| B.1.3.4.2 | Bioorganic chemistry | /4 | /72 | /2 |
| B.1.3.4.3 | Military training | /4 | /72 | /2 |
| B.1.3.5.1 | Industrial toxicology | 5 | 72 | 2 |
| B.1.3.5.2 | Environmental toxicology | /5 | /72 | /2 |
| B.1.3.5.3 | Military training | /5 | /72 | /2 |
| B.1.3.6.1 | Intercultural and professional communication in a foreign language | 4, 5 | /180 | /5 |
| B.1.3.6.2 | Technical translation  | /4, 5 | /180 | /5 |
| B.1.3.6.3 | Military training | /4, 5 | /144 | /4 |
| B.1.3.7.1 | Geoinformation technology | 6 | 144 | 4 |
| B.1.3.7.2 | Geoinformation systems in the management of technosphere safety | /6 | /144 | /4 |
| B.1.3.7.3 | Military training | /6 | /180 | /5 |
| B.1.3.8.1 | Fundamentals of microbiology and biotechnology | 7 | 216 | 6 |
| B.1.3.8.2 | Epidemiology | /7 | /216 | /6 |
| B.1.3.8.3 | Military training | /7 | /180 | /5 |
| B.1.3.9.1 | Technical tool and technologies for controlling pollution sources | 8 | 72 | 2 |
| B.1.3.9.2 | Methods of controlling sources of environmental pollution | /8 | /72 | /2 |
| B.1.3.9.3 | Military training | /8 | /108 | /3 |
| B.1.3.10.1 | Labor safety | 5 | 108 | 3 |
| B.1.3.10.2 | Production safety | /5 | /108 | /3 |
| B.1.3.11.1 | Safety culture | 1 | 108 | 3 |
| B.1.3.11.2 | Valeology | /1 | /108 | /3 |
| B.1.3.12.1 | Game sports | 2-6 | /328 | 0 |
| B.1.3.12.2 | Sports and recreation activities | /2-6 | /328 | 0 |
|  | **Practice (the variable part)** |  |  |  |
| B.2.1 | 1st Training practice | 2 | 108 | 3 |
| B.2.2 | 2nd Training practice | 4 | 108 | 3 |
| B.2.3 | Production practice | 6 | 108 | 3 |
| B.2.4 | Production practice (research work) | 8 | 108 | 3 |
| B.2.5 | Externship | 8 | 216 | 6 |
| **V.3** | **The state final examination (the basic part)** |  | 216 | 6 |
| **F.** | **Optional subjects** |  |  |  |
| F.1 | Military training | 8 | 252 | 7 |
| F.2 | Using of applied information technologies in scientific research | 6 | 72 | 2 |
| F.3 | Statistical processing of research results | 8 | 72 | 2 |
|  | **Total** |  | **8968** | **240** |