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| Educational program | 6B05201 Ecology |
| EP purpose  | Training of professionally competent specialists of a new formation, in demand on the labor market in the field of ecology, environmental education, upbringing and environmental protection. |
| EP type | Acting  |
| Level on NQF | 6  |
| Level on SQF | 6  |
| The awarded academic degree | bachelor |
| Period of study | 4  |
| Volume of the credits | 240  |
| Language of education | Kazakh, Russian |
| Date of approval of the OP at the Board meeting | 11.04.2023 |
| Professional standard |  Geoecological research (Geoecologist) 26.12.2019 |

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| № |  Learning outcomes: |
| 1 | To know the basics of ecology, allowing to analyze ecological processes, to assess the socio-ecological consequences of anthropogenic activities |
| 2 | To possess the ability to evaluate and apply research methods and innovative approaches in analyzing socially significant phenomena and processes in the legal, economic, industrial, environmental and anti-corruption policy. |
| 3 | To evaluate the quality of natural environments by chemical indicators to solve scientific problems for the study of various aggregate states and some physico-chemical properties of substances in the environment and pollution of atmospheric air, natural waters and soil |
| 4 | Apply knowledge of the general laws of interaction of living organisms with environmental factors, the functioning of ecological systems and the biosphere as a whole; know the ecological characteristics of man as a biological and social being, the history of the evolution of the human-society-nature system and the features of its functioning at various stages of development, political, legal and economic mechanisms for managing the quality of the social and natural environment of man |
| 5 | Be able to assess the quality of natural environments by chemical indicators; predict the behavior of pollutants in the environment, as well as changes in the chemical composition and properties of soils in agricultural landscapes |
| 6 | To ensure the safety of life in the field of professional activity; to put into practice knowledge on environmental standardization and certification |
| 7 | Assess the suitability of land and take measures to reproduce soil fertility; possess methods for diagnosing the condition of reclaimed soils and evaluating the effectiveness of the drainage system; develop a set of measures for the primary development, cultivation and maintenance of reclaimed land |
| 8 | Analyze the current state and location of natural resources on the globe, the territory of the Republic of Kazakhstan; analyze the state of natural resource potential in the world and the Republic of Kazakhstan |
| 9 | To assess the ecological state of the natural environment; to monitor and assess the anthropogenic impact of production on the environment; to monitor compliance with established requirements, applicable norms, rules and standards |
| 10 | To predict, evaluate and eliminate the spread of various types of pollutants in the natural environment; to carry out measures for the disposal, disinfection and disposal of various wastes; to organize the process of recycling and recycling of waste |
| 11 | To conduct interdisciplinary scientific research to solve specific environmental protection tasks to achieve the goals of sustainable development; to formalize and provide the results of scientific research; to use modern methods of scientific research, to process and interpret the data obtained using computer technology |
| 12 | Evaluate the genotoxicity of substances and predict the effects of genotoxic factors on populations of living organisms |