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| Educational program | 6В01507 Chemistry-Biology |
| EP purpose  | Training of highly qualified, competitive teaching staff in the field of chemistry and biology, with practical skills and leadership qualities, through the introduction of innovative learning technologies capable of further continuous self-education and improvement of professional knowledge, skills and abilities. |
| EP type | New |
| 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, English |
| Date of approval of the OP at the Board meeting | 10.04.2024 |
| Professional standard | Pedagog 15.12.2022 |

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| № |  Learning outcomes: |

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| 1 | Form judgments during chemical analysis and interpretation of experimental data obtained during laboratory work and link them with the relevant theory; |
| 2 | Apply knowledge about the basics of chemical kinetics and catalysis in practice, based on systems thinking and a critical approach to solving problems in physical and colloidal chemistry; |
| 3 | To use the acquired knowledge of the theoretical foundations of chemistry for independent continuation of further education and application in professional activities. |
| 4 | Develop short-term and long-term curricula using innovative pedagogical methods, including digital technologies, criteria-based assessment and distance learning. |
| 5 | Express an active civic position in interpersonal and intercultural communication in a multilingual environment based on fundamental knowledge and skills in the field of social, political, cultural, psychological sciences in the context of their role in the modernization and digitalization of Kazakhstan society; have the ability to use regulatory and legal documents in their activities. |
| 6 | Possess the principles of taxonomy of microorganisms, plants, animals; knowledge about their adaptation to environmental conditions, diversity and basic distribution patterns. |
| 7 | To use the acquired knowledge on the types and mechanisms of organic reactions and biochemical metabolic processes to explain the essence of chemical transformations occurring in organisms. |
| 8 | Analyze the features of the morphological structure of plants and animals, the organ system, methods for predicting the physiological state of living organisms. |
| 9 | To organize the educational process in the context of the updated content of secondary education, taking into account the physiological and functional characteristics of development processes and the individual educational needs of students. |
| 10 | To draw general conclusions about the principles of synthesis of inorganic and organic compounds and polymers, applying theoretical knowledge of chemical and technological processes. |
| 11 | To systematize and broadcast knowledge about the laws of heredity and variability, about the mechanisms of reproduction and realization of genetic information and the system of replication, transcription and translation |