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| Educational program |  6B06104 Designing SMART systems |
| EP purpose  | Training of personnel in the field of information and communication technologies based on a multidisciplinary approach, possessing fundamental knowledge and practical analysis skills in the development, management of Internet systems and services and the use of SMART technology. |
| EP type | Innovative  |
| Level on NQF | 6 |
| Level on SQF | 6 |
| EP distinctive features | No |
| The awarded academic degree | Bachelor  |
| Period of study | 4 |
| Volume of the credits | 240 |
| Language of education | Russian, kazakh ,English |
| Date of approval of the OP at the Board meeting | 06.04.2022 (protocol No. 10) |
| Professional standard |  Software Testing  |

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| № |  Learning outcomes: |
| 1 | To show 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 Kazakh society. |
| 2 | Evaluate innovative approaches to understanding socially significant social phenomena and processes in the legal, entrepreneurial, industrial, and environmental environment. |
| 3 | Develop computer networks based on the analysis and selection of effective modeling tools, hardware and software components for solving various tasks. |
| 4 | Conduct qualitative mathematical and physical research based on the analysis. |
| 5 | Possess the methods and ability to collect and control the quality of information in the design of information systems and technologies. |
| 6 | Develop technical requirements for hardware and software when placing computer equipment, apply methods for solving problems of analysis and calculation of characteristics in the field of artificial intelligence, machine learning, computer systems and networks. |
| 7 | Possess the means and programming environment for creating mobile applications and developing electronic educational resources using digital audiovisual materials in addition to text materials, work with graphic libraries, modern graphic packages and systems. |
| 8 | Design information models using modern DBMS for building, managing and applying a database. |
| 9 | Speak a foreign language in the professional field of programming and graphics. |
| 10 | Analyze the effectiveness of the application of mobile system design methods and the results of planning experiments and research. |
| 11 | To evaluate a holistic view of the basic concepts and algorithms of mathematical models built on neural networks for the development of Internet services and the use of SMART technologies. |
| 12 | Use financial instruments in practice when evaluating financial innovations, the possibilities of using cryptographic methods and blockchain technology. |