

10.04.01 Information Security "Data security and cryptography"

The program differs from other programs in the field of information security because it focuses on cryptographic methods for protecting information while taking into account modern information technologies for data processing (blockchain, machine learning, intelligent data storage systems, and others).

After mastering the program, students will be able to apply the entire arsenal of existing cryptographic methods to solve information security problems. However, knowledge only in the field of cryptography is still not enough to create effective technical solutions, so students get acquainted with the methods of data mining, machine learning and their application in cybersecurity problems.

Unique disciplines:

- Fundamentals of Quantum Cryptography
- Symmetric cryptosystems
- Asymmetric cryptosystems
- Overlay technologies
- Lattice and knapsack algorithms in post-quantum cryptography
- Modern data security technologies
- Information security technologies
- Development and operation of cryptographic infrastructure
- Targeted attacks on computer systems
- Data analysis and machine learning in cybersecurity
- Distributed ledger systems and their applications
- Practical Basics of Reverse Engineering

Professional opportunities:

- CryptoPro
- Kaspersky
- Bi.zone
- Rosatom
- Group IB