Cybersecurity - graduate's profile

Studies at this specialization are aimed at educating future specialists to work in areas related to security in cyberspace. The direction is strongly related to the current needs of the labor market. Cybersecurity specialists are nowadays at the forefront of the most desirable professions both in Poland and abroad. The graduate is prepared to work in many business entities of every industry that comes into contact with cyberspace as well as in the government sector.

Cybersecurity specialization was developed with the participation of experienced researchers and teaching staff as well as the business environment that had a significant impact on the courses included in the syllabus of this specialization.

During graduation, the graduate will gain wide competences in the field of IT and telecommunications, as well as legal and organizational aspects, with an emphasis on in-depth knowledge in the field of:

- Strategic management of the company, in the context of cyber security threats and data protection requirements;
- Security of Internet applications, computer systems, mobile applications and industrial data transmission systems;
- Security in telecommunications networks and network traffic analysis;
- Cloud computing security and Big Data processing and protection;
- Methods of quantum computation and algebraic coding;
- Advanced techniques of cryptography and cryptanalysis.

The competences obtained during studies will allow the graduate to:
- Skilled use of the latest technologies and knowledge regarding the protection of many digital data processing environments;
- Effective assessment of system security in terms of compliance with current legal acts and international standards;
- Ability to use methods of detecting security threats, using appropriate tools to prevent the most common security threats on mobile devices, servers, computer networks, data centers, cloud computing, distributed systems and the Internet of Things;
- Support for IT networks, taking into account security aspects of data transmission;
- Use of advanced security cryptographic techniques, including authentication, authorization and encryption algorithms;
- Ability to implement personalized algorithms for secure data transmission and storage;
- Cooperation within a team consisting of experts in the above-mentioned areas of knowledge.