

# Information and Communication Security

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| <b>Faculty</b>                     | Faculty of Electrical Engineering and Computer Science |
| <b>Type of study</b>               | Follow-up Master                                       |
| <b>Language of instruction</b>     | English  |
| <b>Code of the programme</b>       | N0612A140005   |
| <b>Title of the programme</b>      | Information and Communication Security                 |
| <b>Regular period of the study</b> | 2 years  |
| <b>Coordinating department</b>     | Department of Computer Science                         |
| <b>Coordinator</b>                 | prof. Ing. Ivan Zelinka, Ph.D.                         |
| <b>Key words</b>                   | security, hacking, malware, defence, cybersecurity     |

## About study programme

This master's degree aims to educate computer security experts in both the public and private sectors. Students will be acquainted with the structure and functionality of computer viruses, modern hacker techniques and methods of defense against them. Students will learn not only the issue of security in classical computing systems but also the security of mobile devices.

## Professions

- Incident manager
- Network security engineer
- Digital forensics engineer
- Expert in ICT security

## Hard skills

- ICT security
- Penetration testing

## Graduate's employment

The curriculum defines the general application of students in the accreditation file. The graduate will have broad practical skills and basic theoretical knowledge in the area of computer security as they are understood, taught and applied at Czech and foreign universities. This will make the position of the graduate on the labor market very easy to read, especially in three areas:

In companies dedicated to developing secure software to the position of a computer security software developer.

In companies and offices in the position of security administrator of HW and SW systems and networks.

In companies engaged in the sale of HW and SW in the position of expertly trained merchant and consultant.

In the state administration, police and army as an expert on information and communication security

With the expected growth of technology-oriented companies in the region and the demand for technically-educated specialists, the graduate will have a high chance for a very good job in the field.

## Study aims

The aim of the study is to educate graduates with expert knowledge of information and communication security who will be able to solve demanding assignments related to data security, communication and computer security.

The composition of the subjects in the curriculum covers the key security aspects of ICT and is chosen with respect to the practical skills and applicability of the acquired knowledge in the graduate's engineering practice.

## **Graduate's knowledge**

Graduate of the study program within the st. the Information and Communication Technologies (ICT) program is profiled in the field of information and communication security, where it acquires expert knowledge of security of computer systems, communication and cryptography. Within its elective subjects, it develops its expertise especially in the field of computer networks and data processing.

The curriculum is designed with emphasis on ICT security expertise and practical skills to ensure graduate employment in the labor market. The profiling of the graduate is attended by employees of the Faculty of Electrical Engineering and Computer Science at VSB-TU Ostrava, in particular the Department of Informatics, Telecommunications and Applied Mathematics.

## **Graduate's skills**

Applying graduates is wherever you need to address data security, information secrecy, communications security, data processing, and other challenging ICT security tasks. As an example, companies such as TietoEnator, Microsoft, AVG, Avast, Monet, IBM, CodeCreator, banks and financial institutions and many others can be mentioned.

## **Graduate's general competence**

The graduate should be able to further self-study in the field and carry out appropriate training in the field.

## **Study curriculum**

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