

**Detailed requirements for the candidates applying for admission
to M.Sc. programme in Computing**

The candidate:

- has an extended and in-depth knowledge of mathematics useful for formulating and solving complex computer tasks involving, among other things, programming in logic, formal specification and verification of software, as well as tasks in physics, fundamentals of electrical and electronic engineering, and fundamentals of automation and robotics,
- has an extended and in-depth knowledge of physics useful for formulating and solving selected computer science tasks, in particular for correct modeling of real-world problems,
- has a structured and theoretically supported general knowledge of electronics, digital technology and computer system architecture,
- has a structured and theoretically supported general knowledge of the key issues of computer science and specific knowledge of selected issues of this discipline of science,
- has knowledge of the important directions of development and major achievements of computer science and other related scientific disciplines, in particular electronics, telecommunications and automation and robotics,
- has a basic knowledge of the life cycle of information systems, both hardware and software, and in particular of the key processes occurring in them,
- knows the basic techniques, methods and tools used in the process of solving computer tasks, mainly of an engineering nature, in the field of key issues of computer science,
- has knowledge of ethical codes of computing, is aware of the dangers of electronic crime, and understands the specifics of mission-critical systems,
- is familiar with basic concepts of economics, relating in particular to IT investments and IT projects,
- has basic knowledge of management and business, and knows the general principles of creation and development of forms of individual entrepreneurship,
- has basic knowledge of patents, the Law on Copyright and Related Rights and the Law on the Protection of Personal Data and technology transfer in particular in relation to IT solutions.