

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

The candidate:

- has an extended and in-depth knowledge of mathematics useful for formulating and solving complex computer science tasks involving, among other things, modeling of artificial intelligence problems and data analysis,
- has a structured, theoretically underpinned basic knowledge of key areas of computer science such as algorithms, programming languages and paradigms, operating systems, computer networks, database systems and software engineering, among others,
- has a structured, detailed theoretical knowledge of key computer science topics in the field of artificial intelligence including, but not limited to, machine learning, data analysis and mining, inductive reasoning, information extraction and processing, optimization techniques, and decision analysis,
- knows and understands the basic techniques, methods, algorithms and tools used in the process of solving computer science tasks with particular emphasis on artificial intelligence, including but not limited to discovering patterns from sundry types of data and synthesizing them into knowledge and conclusions,
- has a basic knowledge of the important directions of development and the most important achievements of artificial intelligence understood as an important field of computer science drawing on the achievements of other scientific disciplines and providing solutions for them with practical potential,
- has a structured, theoretically supported basic knowledge of computer architecture and robotics, useful for modeling, design and control of computer and robotic systems,
- has a basic knowledge of the life cycle and processes occurring in software and hardware information systems with particular emphasis on artificial intelligence systems,
- has knowledge of security, threats and ethical issues related to the development and use of information systems, with particular emphasis on artificial intelligence systems,
- has a basic knowledge of patents, the Law on Copyright and Related Rights, protection of intellectual property and the Law on Personal Data Protection, as well as technology transfer in particular in relation to IT solutions in the field of artificial intelligence,
- knows and understands the general principles of creating and conducting business (including forms of individual entrepreneurship), as well as basic economic concepts relating to IT projects and investments.