ROBOTICS AND ARTIFICIAL INTELLIGENCE (2024)

ITMO

120 credits

Professional training

Mandatory courses

- Robot Programming
- Challenges and Approaches of Modern Robotics
- Robots Modeling and Identification
- Simulation of Robotic Systems
- Machine Learning in Robotics
- Robot Motion Planning and Control

`1, 2, 3 semesters` `27 credits`

Elective specializations/modules/courses

- Biomechatronics and Biomimetics (module)
- Robot Perception (module)
- Computer-Aided Design (module)
- Robotic Systems Hardware (module)
- Computer Vision (module)
- Deep Learning (module)

- Modern Control Systems (course)
- Design and Optimization of Mechatronic Systems (course)

`2, 3 semesters` `15 credits`

42 credits

Fundamental training

- Applied Artificial Intelligence (basic/advanced track)
- Foreign Language
- Creative Technologies
- Entrepreneurship
- Thinking
- Soft Skills

`1, 2, 3, 4 semesters`

18 credits

Practical training

- Research Internship
- Tech Project
- Senior Internship
- Preparation for Thesis Defense and Thesis Defense

`1, 2, 3, 4 semesters`

60 credits

Optional courses (in English)

- Cyber Physical Systems and Technologies
- Biomechatronic Systems Development
- Mediation and Dispute Resolution
- Art & Math of Decision Making
- Stress Management
- Empathy and Non-Violent Communication
- Pitches and Speeches
- Evidence-Based Approach to Career Management
- Launching and Relaunching Your Career

1, 2, 3, 4 semesters