

DESCRIPTIONS OF ELECTIVE COURSES

Field of study	Information Technology (Computer Science)
Level	first-cycle studies
Students admitted in the academic year	2023/2024
Semester in which the courses are selected	5
Semester in which the courses are conducted	6

Elective courses enable the acquisition of knowledge and development of skills important to the field of study but considering the student's individual interests.

This semester you can choose some elective courses, and the selected courses will be taken in the summer semester.

The course can be implemented if there is enough willing students (no less than 66% of students making their choice).

This semester, you will make your choice using a survey that will be available at the beginning of November (the survey will be active for two weeks). Students who do not make a choice will be administratively added to the courses that will be implemented.

In the winter semester of the 2025/26 academic year, students choose 1 course out of 2 offered.

ADVANCED NETWORK TECHNOLOGIES

Course content:

- Concept and standards of selected routing protocols
- Configuration of selected routing protocols
- Packet traffic filtering in networks
- Configuration of standard ACLs for IPv4
- Configuring extended ACLs for IPv4
- Configuring static NAT
- Configuring dynamic NAT
- Troubleshooting NAT configuration issues
- WAN technology
- Network monitoring protocols
- Network device management

ANALYTICS AND BIG DATA IN IOT

Course content:

- Building IoT systems using Raspberry Pi, Arduino, and a set of sensors
- Configuring Raspberry Pi and Arduino systems.
- Downloading and storing large data sets in an IoT system

- Programming Big Data solutions
- Using regular expressions in processing large data sets
- Preparing and using Python packages for data analysis and storage
- Various methods of programming Big Data solutions
- Data exploration – supervised learning
- Data exploration – unsupervised learning
- Classification of data sets and data quality testing
- Data visualization