KAMK • University
of Applied Sciences

Course description

IoT project with Python
5 ECTS
Grading: pass/fail

This course requires Python programming skills and basic knowledge and understanding of IoT. You can gain required skills by participating earlier courses or other ways, for example in work, other studies or self-learning.

Learning outcomes of this course:
After completing this course, students will be able to work in an agile distributed software development project, collecting data from IoT devices and storing it to a database for analysis and visualization. The programming part is done in Python and project documentation is done with Markdown language. Docker containers will also play a significant role in this IoT project.

Course contents:
- Distributed communication framework (MQTT)
- Agile distributed software development
- Python programming in Raspberry Pi and/or ESP32 node
- Time series databases (e.g. InfluxDB)
- Simple visualizations with Python libraries
- Datalogging dashboards with Chronograf and Grafana
- Docker containers