**Applied Automation 1 (ECTS credits: 6)**

Language: the course is offered in English, Serbian and Hungarian.

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**Course description:**

Through the course, students are gradually introduced to the equipment and functions of computer control systems, computer graphics, monitoring, regulation, and sequential control. Exercises include programming methods, application and programming of programmable controllers, interfaces for process visualization and SCADA systems on specific examples, from simple with digital inputs and outputs, to complex with analog inputs and outputs.

The course would cover the following topics, both as lectures and exercises:

1. IT requirements of automatic control system.
2. Structures of computer information networks in management.
3. Industrial computer networks.
4. Profibus, fast ethernet, etc.
5. Plc devices.
6. Plc device programming.
7. Visualization.
8. Information from management processes.
9. Reliability and redundancy of control systems.

**Aims:**

Introduction to the control functions of computer systems:

* computer graphics,
* communication,
* monitoring,
* control,
* regulation,
* sequential control