**Control technics (ECTS credits: 6)**

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

**Course description:**

Through the course, students are gradually introduced to the basics of control theories. Practical classes take place in an adequately equipped computer laboratory. Analysis and synthesis of control systems is performed by computer methods, through simulation programs. In addition to creating tasks on the board, each example is tested individually on your own computer. Presentation of several examples, solutions from practice. The topics of practical classes coincide and follow the topics of the lectures. The goal of practical teaching is to determine theoretical knowledge and to connect theory with practice.

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

1. Structures of automatic control systems.
2. Sensors and actuators.
3. Coupling portable members.
4. Qualitative requirements for automatic control system synthesis.
5. Management without feedback.
6. The role of negative feedback,
7. feedback management.
8. PID controller setting.
9. Robustness of the control system.
10. Management of systems with transport delay.
11. System identification.
12. Digital management.
13. Digital PID controllers.
14. Digital communication systems in the field of automation.

**Aims:**

Acquiring the competence of management with basic theoretical methods in the field of production and process automation. Competence of the design a digital control system, selection of management system elements, integration and adjustment of production and process automation systems.