



## COURSE DATASHEET

<b>Semester:</b>	2015/16/1
<b>Course:</b>	Mechatrical Applications of Microcontrollers
<b>Code:</b>	VEMKFIB533M
<b>Responsible department:</b>	Institute of Physics and Mechatronics
<b>Department code:</b>	MKFI
<b>Responsible instructor:</b>	dr. Zoltán Gugolya

---

### Course objectives:

Gaining skills at mechatronical applications of microcontrollers, programmed use of sensors and actuators - based on course Microcontrollers (VEMKFIB255V).

### Course content:

Controlling stepper motors, using end position sensors.  
A/D signal conversion with the microcontroller.  
Pulse width modulation.  
Temperature control.  
Illuminance control.  
Elementary infra communication between two microcontrollers.  
Signal processing of additional basic sensors.  
Operation of some basic actuators.  
The C programming language and the C developing environment for the microcontroller.  
Variables, cycles, ports, interrupts, conditions, branching.

### Requirements, evaluation and grading:

Compiling a test program at the last laboratory training.  
The following solution is also valid: the student presents his or her own development that has to be modified on site, based on the lecturer's demands.

### Required and recommended readings: