



COURSE DATASHEET

Semester:	2013/14/2
Course:	Mechatronic Systems Laboratory course
Code:	VEMKFIB433M
Responsible department:	Institute of Physics and Mechatronics
Department code:	MKFI
Responsible instructor:	dr. István Szalai

Course objectives:

The main objective of the course is to give students hands-on experience with some simple mechatronics systems, their subsystems and parts.

Course content:

1. Accident prevention 2. Review of the exercises. Preliminary training. 3. Examination of an optocoupler. 4. Transmission of rotary motion by a Cardan joint. 5. Open-loop powering of inductive loads by PWM signal. 6. Acceleration and deceleration of a DC-motor-driven system. 7. Heating and cooling of power electronics parts. 8. Operation and programming of a programmable relay. 9. Examination of stabilized and unstabilized power supplies. 10. Laser engraving by a CNC-driven X-Y table. 11. Tuning of a DC servo amplifier for a linear drive unit. 12. Examination of an analog optical proximity switch. 13. Calibration and application of an LVDT . 14. Programming and application of a PLC. 15. Essay written, 90 minutes.

Requirements, evaluation and grading:

Fulfill the main tasks in the measurements and provide a written results and analysis.

Required and recommended readings:

W. Bolton: Mechatronics. Electronic control systems in mechanical and electrical engineering. (Pearson Education, 2008)