UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2014/15/2
Course:	Process Control
Code:	VEMKFOB213F
Responsible department:	Department of Process Engineering
Department code:	MKFO
Responsible instructor:	dr. Tibor Chován

Course objectives:

Modern methods and instruments of process control; present and future alternatives

Course content:

1. Overall scheme of process control; its role in integrated control systems. Transformation of signals in computer controlled chemical technological systems. Short historical review: generations of process control. 2. Organization of process control systems: direct digital control (DDC), supervisory control, distributed control systems (DCS). 3. Hardware components of computer control systems 4. Softver components of computer control systems 5. Methods and tools of man-machine interface. 6. Characteristics and types of smart control devices (transducers, actuators, controllers). 7. Data acquisition systems (DA), programmable logic controllers (PLC). 8. Single or multi loop controllers (SLC). 9. Distributed control systems (DCS), mini computer control systems. 10. Industrial PC's. 11. Relationship between control systems and management information systems. 12. Quality assurance of computer control systems. 13. Control of continues and batch technologies. 14. PC-based control and monitoring systems for laboratory and industrial technologies. Development and programming of control strategy in block-oriented systems. 15. Introduction of typical control systems

Requirements, evaluation and grading:

Required and suggested references: Moore, J.A.: Digital control devices. ISA, NC, 1986. Moore, J.A.; Herb, S.M.: Understanding distributed process control. ISA, NC, 1983. http://www.pid.hu Requirements: Completing two midterm examinations. Possibilities for repeating the subject: Repeated examination on the course content. Accepted equivalent subjects: Learning efforts necessary to satisfy the requirements of the subject: Learning of the course material.

Required and recommended readings:

Moore: Digital Control Devices, ISA, NC, 1986 Moore-Herb: Understanding Distributed Process Control, ISA, NC, 1984. http://www.pid.hu