

Course title: Control Engineering Information Systems	Neptun code: GEVAU401-a
Course coordinator: Dr. Attila Trohák, PhD, associate professor	
type of lesson and number of lessons: lecture (2)	
method of evaluation: colloquium	
curriculum location of the subject: (autumn/spring semester): autumn and spring	
pre-study conditions (<i>if any</i>): -	
The task and purpose of the subject:	
The aim of the course is to introduce students to the information systems in control engineering.	
Course description:	
The role of IT and information systems at the field of control engineering in factory- and process automation. PLC, SCADA/HMI, DCS systems and their services. Systems of data collection and processing. Virtual reality, augmented reality systems. Advanced design, modeling and simulation methods. Industrial cyber security.	
Required literature:	
<ol style="list-style-type: none"> 1. J. Berge: Fieldbuses for Process Control: Engineering, Operation and Maintenance. Published: ISA 2002, ISBN: 1-55617-760-7. 2. Bryan Kenneweg, Imran Kasam, Micah McMullen: Building Low-Code Applications with Mendix: Discover best practices and expert techniques to simplify enterprise web development, Packt, 2021., ISBN-13: 978-1800201422 3. K.H. John, M. Tiegelkamp: IEC61131-3: Programming Industrial Automation Systems. Springer-Verlag Berlin Heidelberg, New York, 1995. 	
Recommended literature:	
<ol style="list-style-type: none"> 1. Ralf Doerner, Wolfgang Broll, Paul Grimm, Bernhard Jung: Virtual and Augmented Reality (VR/AR), Springer, 2022., ISBN: 978-3-030-79062-2 2. Charles Bell: Beginning IoT Projects, Apress, 2021., ISBN-13: 978-1484272336 	