

Course Title:	PLC – Programmable Logic Controllers
Institute/Division:	Department of Automation and Computer Engineering Faculty of Electrical and Computer Engineering
Course code:	E-PLC
Erasmus subject code:	0714 Electronics and automation
Number of contact hours:	45
Course duration:	1 semester (Fall/Winter)
ECTS credits:	6
Course description:	<p>PLC – programmable logic controllers. The course consists of lectures, two small projects and laboratory exercises. Basic elements of ladder programming language: instructions, functions and block functions, counters and timers. Human machine interface (HMI) and PLC. Control and monitoring panels design and implementations, design of plc program, sequential function charts. Examples of industrial control applications.</p> <p>Intended platform and software: Siemens PLC (S7-1200) and Siemens HMI screen, TIA Portal (software)</p> <p>At-home practice: the possibility of downloading a trial version of TIA Portal and PLCsim (PLC simulator)</p>
Course type:	Lectures (10h), Laboratory (27h), Project (8h)
Literature:	Mitra, Madhuchhanda; Gupta, Samarjit Sen: <i>Programmable logic controllers and industrial automation</i> Mehta, Bharat; Reddy, Y. Jaganmohan: <i>Industrial process automation systems: design and implementation</i> Dey, Chanchal; Sen, Sunit Kuma: <i>Industrial automation technologies</i>
Assessment method:	The final project, laboratory exercises
Prerequisites:	-
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