Course Title:	**Industrial Automation**
Institute/Division:	Department of Automation and Computer Engineering Faculty of Electrical and Computer Engineering
Course code:	**E-IA**
Erasmus subject code:	0714 Electronics and automation)
Number of contact hours:	45
Course duration:	1 semester (Spring/Summer)
ECTS credits:	6
Course description:	The course consists of lectures, laboratory exercises, and a project. The topics covered in the course include: the LAD (Ladder Logic) language, software design for industrial controllers (SFC - Sequential Function Chart), programming for visualization on HMI (Human Machine Interface), programming industrial communication (for example, MODBUS RTU, MODBUS TCP), creating Safety software (ESTOP, FDBACK, SFDOOR, TWO_H_EN, MOUTING, and so on), parameterization and programming of drives: the MOTION library (MC_Home, MC_MoveAbsolute, MC_MoveJog, MC_MoveVelocity and so on). Intended platform and software: Siemens Controllers and TIA PORTAL.
Course type:	Lectures (9h), Laboratory (27h), Project (9h)
Literature:	Erickson K.T.: Programmable logic controllers: an emphasis on design and applications, Dogwood Valley Press. Safety Programming Guideline for SIMATIC S7-1200/1500 (https://support.industry.siemens.com/cs/ww/en/view/109750255) S7-1500T Motion Control V4.0 in TIA Portal V15 (s71500t_motion_control_function_manual_en-US_en-US.pdf)
Assessment method:	Laboratory exercises and project
Prerequisites:	-
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