

Automation with Siemens S7 PLC

Course number	7224
Hours per week:	4
ECTS:	5
Scheduled:	Winter Term
Format:	Lecture/ seminar presentations / lab practice
Examination:	Written/Oral exam/Project Presentations
Lecturer:	Dodiek Ika Candra
Objectives:	Understanding the basics of functions, programs, configuration, maintenance, and diagnostics of PLC S7-1200 Ability to create and manage projects in STEP7 integrated in the modern TIA Portal
Contents:	<ul style="list-style-type: none"> • Introduction to PLC S7-1200 and TIA Portal • Hardware configuration of S7-1200 systems • PLC components symbols • Binary and digital operations (incl. timers and counters) • Analog values processing • Concept of Data Blocks (DB), Organization Blocks (OB), Function Block (FB), and Function (FC) • Variables management PLC • Generate a program using LAD/FBD/SCL languages • Introduction to basics of the PROFINET network • Project management – documentation, archiving and saving the program. • Identifying basic errors of the user • Practical exercises
Pre-requisites	General technical knowledge especially basic knowledge of relay control systems
Recommended Reading:	<ul style="list-style-type: none"> • Berger, H.: Automating with SIMATIC S7-1200 Hardware Components, Programming with STEP 7 Basic in LAD and FBD, Visualization with HMI Basic Panels (PRINT and E-BOOK), PUBLICIS, 2013. • Berger, H.: Automating with SIMATIC: Controllers, Software, Programming, Data Communication Operator Control and Process Monitoring, PUBLICIS, 2009. • Kraftan, J.: PLC-Basic Course with SIMATIC S7, Vogel Business Media GmbH, 2011.