COURSE DESCRIPTION CARD - SYLLABUS

Course name
Supervision of production systems

Course

Field of study
Management and Production Engineering

Year/Semester
4 / 8

Area of study (specialization)

Profile of study
practical

Level of study
First-cycle studies

Course offered in
polish

Form of study
part-time

Requirements
elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
10	8	
Tutorials	Projects/seminars	

Number of credit points

3

Lecturers

Responsible for the course/lecturer:
PhD Dariusz Sędziak

e-mail: dariusz.sedziak@put.poznan.pl

tel. 61 665 22 55

Faculty of Mechanical Engineering

Piotrowo 3, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Basics of automation, basics of programming, basics of machine technology.

Course objective

To acquaint students with tools and software for creating and configuring operator interfaces, for bench monitoring of machines and production lines, based on HMI panels and SCADA systems.

Course-related learning outcomes

Knowledge

The student has a general knowledge of the automation and robotization of production processes, including the structure of numerical control and automatic regulation. Has knowledge of steering and

control of manufacturing processes. Has a basic knowledge of the architecture of computer systems and computer-aided engineering work.

Skills

Basic-level design of the HMI and machine monitoring and control interface.

Basic knowledge of information systems used in the enterprise.

Social competences

The student is able to actively engage in solving the problems posed, independently develop and expand their competences

The student is aware of the role of automation in modern economy and its importance for society and the environment

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Credit based on a written exam consisting of 3-4 general questions in the subject (<50% - ndst, 50-60%: dst 60-70% -dst +, 70-80: db, 80-90: db +, > 90% - very good)

Laboratory: Credit based on the assessment of the final task carried out by the subgroup containing the content discussed in the subject.

Programme content

Model of IT systems in an enterprise. Data transfer in industrial and internet networks. Data sources in the automation system (sensors, controllers, drives, etc.). Introduction to techniques for visualizing the control process based on specialized software and HMI panels. Overview of how to create and manage user windows, define and use variables. Recommendations and errors in building the visualization. Learning about user interface objects. Working with alarms and events. Historical data collection systems and their analysis.

Teaching methods

Lectures, supported by transparencies and multimedia presentations

Laboratory: Topics carried out simultaneously in groups on didactic positions and a mini evaluation project using the previously acquired knowledge.

Bibliography

Basic

1. Kwaśniewski J., Sterowniki PLC w praktyce inżynierskiej, Wydawnictwo BTC, Legionowo 2008.

2. Kwiecień R., Komputerowe systemy auomatyki przemysłowej, Wydawnictwo Helion, Gliwice 2013.

3. Wonderware Intouch- Podręcznik użytkownika, Praca zbiorowa, Invensys systems

Additional

1. Terminal HMI serii NQ – Instrukcja obsługi, Omron

2. Siemens S7-1200 Pierwsze kroki, Siemens

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3
Classes requiring direct contact with the teacher	35	1
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	40	1

[1] delete or add other activities as appropriate