

Production Control - course description

General information	
Course name	Production Control
Course ID	06.9-WM-MaPE-QE-P-PC- 23
Faculty	Faculty of Mechanical Engineering
Field of study	Management and Production Engineering
Education profile	academic
Level of studies	First-cycle studies leading to Engineer's degree
Beginning semester	winter term 2023/2024

Course information	
Semester	5
ECTS credits to win	2
Available in specialities	Quality Engineering
Course type	obligatory
Teaching language	english
Author of syllabus	<ul style="list-style-type: none">dr inż. Marek Sałamaj

Classes forms					
The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Laboratory	30	2	-	-	Credit with grade

Aim of the course

The aim of the course is to present topics related to the subject and issues in the field of production control and management. The main purpose of the course is to use the confirmation of origin and what are the sources on the production line of a manufacturing company for the creation of auxiliary equipment for the production of products and the provision of services that meet customer requirements.

Prerequisites

Fundamentals of Metrology, Introduction to Production Engineering .

Scope

Laboratory:

L1: Introduction

L2, L3, L4: Controllers 1 - introduction, actuators (motors - encoders, displays, etc.), measuring elements (temperature sensors, ultrasonic sensors, pressure and deflection sensors, etc.)

L5, L6, L7: Controller 2 - introduction, actuators (displays, screens, motors, etc.), measuring elements (temperature sensors, ultrasonic sensors)

L8: Controller 2 - vision systems (cameras, motors, servos)

L9, L10: Controller 1 and Controller 2 - communication (wired and wireless communication type GSM, RF, etc.), Client-Server solutions, Controller 3 - rapid prototyping

L11: Industrial cameras

L12: Thermal imaging cameras

L13: Measuring vision system

L14: Summary classes

L15: Passing classes

Teaching methods

Laboratory: laboratory exercises (show)

Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
Knowledge of information systems and databases as well as computer-aided engineering work systems in the field of engineering and Production Management.	<ul style="list-style-type: none">K_W33	<ul style="list-style-type: none">a discussionan evaluation test	<ul style="list-style-type: none">Laboratory
Ability to use the known analytical, simulation and experimental methods in the decision-making process related to production planning and control.	<ul style="list-style-type: none">K_U13	<ul style="list-style-type: none">a discussion	<ul style="list-style-type: none">Laboratory

Outcome description	Outcome symbols	Methods of verification	The class form
Basic knowledge of workshop metrology methods, measurement techniques, including microprocessor measurement techniques, related to the issues of Management and Production Engineering.	<ul style="list-style-type: none"> • K_W15 	<ul style="list-style-type: none"> • a preparation of a research paper • an evaluation test 	<ul style="list-style-type: none"> • Laboratory

Assignment conditions

Laboratory - to receive a positive grade, the student must obtain positive grades from papers in the field of production control (Final grade - arithmetic mean of positive partial grades)

Recommended reading

1. Simon M.: Raspberry Pi Cookbook, Software and Hardware Problems and Solutions, O'REILLY 2023
2. Woodruff E.: Raspberry Pi: The Complete User Guide for Beginners and Experts with Tips & Tricks On How to Setup Raspberry Pi and build Innovative Projects, Paperback, 2021
3. Monk S.: Programming the Raspberry Pi

Further reading

1. Timmons-Brown M.: Learn Robotics With Raspberry, Wyd. Paperback, 2018
2. Kearney K., Freeman W.: Creative Projects with Raspberry Pi, Wyd. Harry N. Abrams, Inc., 2017
3. Hughes J. M.: Arduino in a Nutshell: A Desktop Quick Reference, Wyd. Paperback, 2016

Notes

Modified by dr inż. Marek Sałamaj (last modification: 08-05-2023 08:53)

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