COURSE DESCRIPTION CARD - SYLLABUS

Course name
Production engineering [N1Mech2>IP]

Course

Field of study
Mechatronics

Year/Semester
4/7

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
part-time

Requirements
compulsory

Number of hours

Lecture
8

Laboratory classes
8

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

2,00

Coordinators

Lecturers

Prerequisites

The student has a basic knowledge of the fundamentals of process design for various manufacturing techniques and the automation and robotisation of manufacturing processes.

Course objective

The aim is to learn the basics of the implementation of production processes and the functioning of production systems.

Course-related learning outcomes

Knowledge:
Student knows the characteristics of a production system and process.
Student knows the elements of production system (production structure, types of production cells).
Student knows basic forms of production organisation.
Student knows basic parameters of production process realisation.
Student knows objectives and principles of production supervision and control.

Skills:
Student is able to indicate the importance of production data acquisition and analysis.
Student is able to indicate the benefits of using and identify solutions for automatic data identification in

the realisation of production processes.
Student is able to calculate and analyse indicators of production process realisation.
Student is able to indicate the benefits of using IT solutions in production supervision and control.

Social competences:
Understands the importance of organisation and production control in the functioning of a company
Is able to independently develop knowledge in the subject

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: credit based on a test, carried out at the end of the semester (the treshold of passing is 50%).
Laboratory: credit on the basis of studies prepared on the basis of the laboratory tasks carried out.

Programme content

Production system and process. Methods and technical solutions in production supervision and control.

Course topics

Lecture:
Production system, production process. Production capacity; factors determining capacity planning. Organisational structure of production processes (form of organisation, type of production, types of production structure). Supervision and control of production processes. IT and technical solutions in production control.
Laboratory:
Simulation classes on the application of IT solutions for the supervision and control of production processes, identification and acquisition of production data.

Teaching methods

Lecture: multimedia presentation illustrated with examples given on the blackboard, active participation in classes; consultations.
Tutorials: solving tasks, practical exercises, discussion, case study.

Bibliography

Basic:
Lewandowski Jerzy, Skołud Bożena, Plinta Dariusz, Organizacja systemów produkcyjnych, PWE, Warszawa 2014r.
Edward Pająk, Zarządzanie produkcją. Produkt, technologia, organizacja, PWN, Warszawa, 2006
Andrzej Jardzioch, Krzysztof Kalinowski, Sławomir Kłos, Organizacja i planowanie produkcji, PWE 2023
Paweł Buchwald, Grzegorz Granosik, Aleksander Gwiazda , Internet Rzeczy i jego przemysłowe zastosowania, PWE 2022.Banaszak Z., Kłos S., Mleczko J., Zintegrowane systemy zarządzania, PWE, Warszawa 2011r

Additional:
Waters Donald, Zarządzanie operacyjne, PWN, 2019

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	16	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	34	1,50