POZNAN UNIVERSITY OF TECHNOLOGY

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Visual management in production processes [N1ZiIP2>ZWwPP]

Course

Field of study	Year/Semester
Management and Production Engineering	4/8

Area of study (specialization)	Profile of study
–	general academic

Level of study	Course offered in
first-cycle	Polish

Form of study	Requirements
part-time	elective

Number of hours

Lecture	Laboratory classes	Other
0	8	0

Tutorials	Projects/seminars	
0	8	

Number of credit points

2,00

Coordinators	Lecturers

Prerequisites

The student has basic knowledge of production organization and the flow of information and materials in production processes. The student has a basic understanding of statistics. A student can analyze data in production engineering. A student can logically associate facts and use information obtained from available sources of knowledge.

Course objective

Transfer of knowledge in the field of selected data visualization methods constituting the basis for reporting the results of production processes supporting decision-making.

Course-related learning outcomes

Knowledge:
Knows the correct interpretation of the components of the production process.
Knows modern systems supporting the flow of information.
Knows visualization methods and their role in describing production processes.

Skills:
Can recognize the need to improve elements of the production system with selected elements of visual systems.

Can indicate in selected processes the possibilities of reducing errors made by introducing visual solutions.
Can visualize data based on real examples of business data.

Social competences:
Developing the ability to analyze and interpret results correctly.
Ability to critically evaluate production reports.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Project: Verification of knowledge based on a colloquium consisting of 3 general questions conducted at the end of the semester. Passing threshold: 50%.
Assignment of grades to percentage ranges of results: <90-100> very good; <80-90) good plus; <70-80) good; <60-70) satisfactory plus; <50-60) satisfactory; <0-50) unsatisfactory.
Laboratory: Report from the classes (according to the template prepared by the instructor).

Programme content

Information flow in a manufacturing enterprise. Data storytelling. Visual management in manufacturing processes in examples from selected manufacturing companies. Presentation of PowerBI Desktop capabilities.

Course topics

Project: Data and information flow in the production process. Data storytelling. Graphical representation of data. Visual management in production processes - a case study.
Labs: Data visualization. Data scaling. Building interactive charts, maps, and tables. Creating reports.

Teaching methods

Multimedia presentation, including the use of distance learning techniques and e-resources, case study, own work on computers, and discussion.

Bibliography

Basic:
Deckler G.: Pierwsze kroki w Power BI. Kompletny przewodnik po praktycznej analityce biznesowej. Wydanie II, Helion
Murray S., Interaktywna wizualizacja danych, Helion

Additional:
Strengholt P.: Zarządzanie danymi w zbiorach o dużej skali. Nowoczesna architektura z siatką danych i technologią Data Fabric. Wydanie II, Helion
Kusleika D.: Wizualizacja danych. Pulpity nawigacyjne i raporty w Excelu, Helion

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