COURSE DESCRIPTION CARD - SYLLABUS

Course name
Specialization project [N2ZiIP2-IiZJ>PSp]

Course

Field of study
Management and Production Engineering

Year/Semester
2/3

Area of study (specialization)
Quality Engineering and Management

Profile of study
general academic

Level of study
second-cycle

Course offered in
Polish

Form of study
part-time

Requirements
compulsory

Number of hours

Lecture
0

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
32

Number of credit points

5,00

Coordinators

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Lecturers

Prerequisites

The student knows the relations between activities of an engineering and managerial nature in a production enterprise. The student is able to design a production (service) system along with conducting a technical and financial analysis of its operation. The student is able to work in a team, recognizes the need for continuing education. Has knowledge of information systems in the enterprise.

Course objective

Combining knowledge and skills acquired in the course of studies so far in describing and interpreting phenomena and changes occurring in manufacturing technologies, the functioning of manufacturing enterprises and the business and social environment, in the context of quality management and quality engineering tasks.

Course-related learning outcomes

Knowledge:
The student has knowledge of development trends and the most significant new developments in the field of engineering sciences and the discipline of mechanical engineering and related scientific disciplines specific to the field of management and production engineering.

The student knows the organizational and legal conditions of the activities of a production (service) enterprise.
The student knows and understands the basic concepts of process modeling in an enterprise.
The student has knowledge of the design and implementation of information systems used in an enterprise.

Skills:
The student has the ability to design products, processes, production systems, as well as to plan and schedule the production flow.
The student is able to identify current opportunities and ways to obtain funds for conducting (opening) business.
The student is able to perform a project in an enterprise in the area of management and production engineering.

Social competences:
The student is creative, responsible for the decisions made, is able to determine the priorities of the activities performed. The student is able to cooperate with the team.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Periodic check-up of progress related to preparation for a debate on a given topic.
Assessment of materials prepared for a thematic debate.
Assessment of the way arguments are presented and defended during the debate.

Programme content

Collection and preparation of materials on a given topic related to phenomena and changes occurring in manufacturing technologies, in the functioning of manufacturing enterprises and the business and social environment, in the context of quality management and quality engineering tasks.
Development of an Oxford debate scenario, - presentation of various - contradictory - positions on a given topic.
Conducting a debate.
Participation in the discussion.

Course topics

Conducting an Oxford debate on a given topic related to phenomena and changes occurring in manufacturing technologies, in the functioning of manufacturing enterprises and in the business and social environment, in the context of quality management and quality engineering tasks. The topics of the debate include, among others: issues:
- the role of humans in quality management in the era of technology 4.0 (disappearing vs. not decreasing),
- quality management systems in the 21st century (obsolete vs. necessary),
- quality management systems in Polish enterprises - stage of development in the context of industrial revolutions (closer to I3.0 vs. closer to I4.0),
- artificial intelligence in enterprise management (opportunities vs. threats)
- additive manufacturing (opportunity for full mass personalization vs. application mainly in prototyping and has its own use).
Creation of thematic teams
Literature studies on the indicated topic using scientific publications, reports of consulting companies, industry press, media materials, etc...
Systematic consultation of progress in preparing materials for the debate
Conducting a debate prepared by individual teams (presentation, participation in the discussion).
Development of conclusions from the debate.

Teaching methods

Project:
- searching for information in the literature on a given topic,
- preparing a presentation (in the form of a Power Point presentation and in a descriptive form).
- debate (presentation and discussion).

Bibliography

Basic:
1. Hamrol A., Strategie i praktyki sprawnego działania, PWN, Warszawa 2023
2. Starzyńska B., Hamrol A., Grabowska M., Poradnik menedżera jakości. Kompendium wiedzy o narzędziach jakości, Wydawnictwo Politechniki Poznańskiej, Poznań 2010

Additional:
1. Hamrol A., Zarządzanie i inżynieria jakości ze spojrzeniem w rzeczywistość 4.0, PWN, Warszawa 2023

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,00
Classes requiring direct contact with the teacher	32	1,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	93	3,50