



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Specialization project [S2ZiIP2-liZJ>PSp]

Course

Field of study

Management and Production Engineering

Year/Semester

1/2

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

full-time

Requirements

elective

Number of hours

Lecture

0

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

60

Number of credit points

5,00

Coordinators

prof. dr hab. inż. Adam Hamrol
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Lecturers

Prerequisites

The student has knowledge of quality theory and quality engineering and management. Knows and understands the place of quality management and quality engineering in a manufacturing enterprise and in the business and social environment. The student is able to work in a team.

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 developmental trends and recent achievements in the field of engineering and technical sciences as well as the discipline of mechanical engineering and related to management and production engineering. Knows and understands the idea of process management in modern enterprises. Knows the specificity of manufacturing and service activity. Has knowledge of the

design and implementation of management systems (in particular quality management systems).

Skills:

The student has the skills of designing products, processes, systems and planning and controlling the course of production processes. Can indicate the current possibilities and ways of obtaining funds for running (registering) business activity. Can carry out a project in an enterprise in the area of quality engineering and management.

Social competences:

The student is creative and responsible for decisions made. Can determine the priorities of the activities performed. Can organize and work in a 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	60	2,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	65	2,50