



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Designing of management systems [S2IBiJ1>PSZ]

### Course

Field of study

Safety and Quality Engineering

Year/Semester

1/1

Area of study (specialization)

–

Profile of study

general academic

Level of study

second-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

15

Laboratory classes

0

Other

0

Tutorials

30

Projects/seminars

15

### Number of credit points

4,00

### Coordinators

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### Lecturers

### Prerequisites

The student defines and describes concepts and principles in the field of management, in particular the management of processes and the relationships between them. The student is aware of the need to design and improve management systems.

### Course objective

Developing understanding of theoretical aspects and practical skills in designing management systems using the project management methodology.

### Course-related learning outcomes

Knowledge:

1. The student describes the principles of project management adapted to the issues of designing management systems [K2\_W06].
2. The student understands the importance of the systemic approach to management and the need to integrate management systems with other systems in organizations [K2\_W08].

Skills:

1. In a team, the student designs selected elements of the management system using project management methods and techniques [K2\_U05].
2. The student is able to implement the assumptions of project management, including planning activities, scheduling, defining specific goals and tasks, their achievability criteria, and building project teams, identifying resources and determining the control methodology at various stages of the project life cycle [K2\_U09].

Social competences:

1. When solving problems with the design of management systems, the student takes into account the opinion of experts [K2\_K01].
2. The student correctly identifies and resolves dilemmas related to the design of management systems and understands the need to make society aware of the role of systems management in the proper functioning of the organization [K2\_K02].

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Rating forming:

- a) tutorials: based on the assessment of the current progress in the implementation of tasks and the colloquium (passing threshold: 50% of the points),
- b) projects: based on the assessment of the current implementation of project tasks and project presentation,
- c) lecture: based on oral answers to questions regarding the material discussed at the beginning and end of the lectures.

Rating summary:

- a) tutorials: completed tasks and passed tests - average value of grades,
- b) projects: completed tasks and passed tests - average value of grades,
- c) lecture: completed tasks and passed tests - average value of grades - passing threshold: 50% of the points.

### Programme content

Lecture:

Fundamentals of systems engineering, design theory and project management. Management system models, principles and methods used in their design.

Tutorials:

Case study on project management methodology in designing management systems.

Projects:

Development of the concept of a designated management system for the selected enterprise.

### Course topics

Lecture:

Fundamentals of systems engineering. Management system. Integration of management systems. The context of the organization's functioning. Management system models. Basics of design theory and project management. Designing a management system in an organization.

Tutorials:

Case study on project management methodology in designing management systems.

Projects:

Development of the concept of a designated management system for the selected enterprise.

### Teaching methods

Lecture: multimedia lecture, case study analysis. The lecture is conducted using distance learning techniques in a synchronous mode. Acceptable platforms: eMeeting, Zoom, Microsoft Teams.

Tutorials: multimedia presentation, team work, solving exercise tasks, discussion of solutions.

Projects: multimedia presentation, team work, solving design tasks, discussion of solutions.

### Bibliography

Basic:

1. Pacyna A., Stadnicka D. (2021), Nowoczesne systemy zarządzania jakością zgodne z ISO 9001:2015, Politechnika Rzeszowska im. Ignacego Łukasiewicza. Oficyna Wydawnicza.
2. Prussak W., Mrugalska B. (2011), Projektowanie systemów bezpieczeństwa, Wydawnictwo Politechniki Poznańskiej, Poznań.
3. Wirkus M., Roszkowski H., Dostatni E., Gierulski W. (2014), Zarządzanie projektem, Polskie Wydawnictwo Ekonomiczne, Warszawa.
4. PN-EN ISO 9001:2015, Systemy zarządzania jakością. Wymagania.
5. PN-ISO 45001:2018, Systemy zarządzania bezpieczeństwem i higieną pracy. Wymagania i wytyczne stosowania.
6. ISO 14001:2015 - System zarządzania środowiskowego
7. Identification of leading factors supporting decisions in preventive quality management / Agnieszka Misztal (WIZ), Milena Drzewiecka-Dahlke (WIZ), Roma Marczewska-Kuźma (WIZ), Józef Gruszka (WIZ) // Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie - 2022, no. 162, s. 473-499.

Additional:

1. Cempel C. (2008), Teoria i inżynieria systemów - zasady i zastosowania myślenia systemowego, Wydawnictwo Naukowe Instytutu Technologii Eksploatacji - PIB, Radom.
2. Wójcik J. (2015), Wykorzystanie metody zarządzania projektami w małych i średnich przedsiębiorstwach. Zeszyty Naukowe Politechniki Śląskiej, Seria: Organizacja i Zarządzanie. Zeszyt 78, 529-541.
3. Marczewska-Kuźma R. (2021), Correlation Approach in Defining Organizational Health and Safety Management Strategies, European Research Studies Journal, vol. 24, iss. 2B, s. 904-914.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,00
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)	40	1,50