SYLLABUS

Name: **Problem-based seminar**
Name in Polish: **Seminarium problemowe**
Name in English: **Problem-based seminar**

Information on course:

Course offered by department: Faculty of Organisation and Management
Course for department: Silesian University of Technology
Study level and form: Master's degree, Full-time
Term: summer semester 2025/2026 and 2026/2027, sem. VI and VII
Coordinator of course edition: dr hab. inż. Jarosław Brodny, prof. PŚ

Default type of course examination report:

Pass

Language:

English

Course homepage:

https://platforma.polsl.pl/roz/

ECTS

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Short description:

The subject aims to provide structured knowledge on solving simple and complex engineering problems in the area of management and production engineering. In particular, this applies to a comprehensive and process-based approach to solving such problems using production engineering methods and tools.

Description:

Detailed program content includes:

Seminar: Basic issues related to solving simple and complex engineering problems. Process and methodical approach to problem identification. Characterization of theoretical and practical aspects of preparing and presenting research results on a given problem. Characteristics of methods and tools necessary to solve a problem in the area of production management and engineering. Conducting research on a real problem in the area of management and production engineering.

Number of hours of classes with direct participation of academic teachers or other people conducting classes and students
- seminar 30 hours (15 hours - 6th semester and 15 hours - 7th semester)

The number of hours devoted to the student's own work:
- preparation for passing the seminar: 30 hours (15 hours - 6th semester and 15 hours - 7th semester)

Total number of hours: 60
Number of ECTS credits: 2
including
Number of ECTS points obtained in classes conducted with the direct participation of academic teachers or other persons conducting classes and students: 1.0

Bibliography:

1. Knosala R., Inżynieria Produkcji – kompendium wiedzy. Polskie Wydawnictwo Ekonomiczne, Warszawa 2017.
2. Knosala R., Inżynieria zarządzania. Cyfryzacja produkcji. Aktualności badawcze 5. Polskie Wydawnictwo Ekonomiczne, Warszawa 2023.
3. Jardzioch A., Kalinowski K., Kłos S., Organizacja i planowanie produkcji. Polskie Wydawnictwo Ekonomiczne, Warszawa 2023.
4. Kurpas D., I inni, Jak pisać prace naukowe i gdzie je publikować? Opole 2014.
5. Andrzej Gajewski A., TRIZ – inwentyczna metoda rozwiązywania problemów. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie. 2013 r.
6. Obolewicz J., Metody i techniki pracy współczesnego inżyniera. Modern Engineering 1/2016.
7. Dźwigoł H., Założenia do budowy metodyki badawczej. Zeszyty naukowe Politechniki Śląskiej, seria Organizacja i Zarządzanie, nr 78 2015 r.
8. Multan E., Metoda problemowa (PBL) w procesie dydaktycznym uczelni wyższej. Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego w Siedlcach Seria: Administracja i Zarządzanie, 2017 r.

Learning outcomes:

Student knows and understands:

Student is able to:

Select and use appropriate techniques, skills and modern engineering tools (K1A _U9).

Independently plan and implement their own lifelong learning (K1A _U11).

Student jest gotów do:

Fulfilling social obligations, co-organizing activities for the social environment, initiating activities for the public interest, thinking and acting in an entrepreneurial manner (K1A _K2).

All learning outcomes related to the subject Problem-based seminar.

Assessment methods and assessment criteria:

Seminar:

Passing the seminar in the 6th semester is based on a positive assessment of the prepared intermediate work regarding the examined engineering problem, and in the 7th semester - on the prepared and presented solution to the examined problem.

The final grade for seminar classes may be increased based on the activity in classes.

Practical placement:

Not applicable