SYLLABUS

Name: Total Quality Management
Name in Polish: Kompleksowe zarządzanie jakością
Name in English:

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/Bechelor's degree, Full-time
Term:	Winter semester 2023/2024
Coordinator of course edition:	Dr hab. inż. Patrycja Hąbek, prof. PŚ

Default type of course examination report:

Language:
English

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

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Short description:
The course objective is to provide basic knowledge about the contemporary Total Quality Management concept (TQM) and to acquire the ability to solve elementary TQM issues.

Description:

Lecture 30h:

Key Topics Covered:

1. The concept of quality
2. Evolution of the approach to quality management
3. Total Quality Management (TQM) philosophy principles
4. Quality management system according to ISO 9001
5. Leadership, motivation and quality culture in TQM
6. Customer and employee orientation in TQM
7. Process orientation in TQM
8. Self-assessment of the organisation and review of models of excellence
9. Selected TQM methods
10. Quality costs

Exercises 15h:

1. Root Cause Analysis: Students conduct a root cause analysis using tools like the 5 Whys or Fishbone Diagram and proposing corrective actions.
2. Total Employee Involvement: Students develop strategies to foster total employee involvement in quality improvement. They can explore techniques for empowering employees and promoting a culture of continuous improvement.
3. Process Mapping: Students analyse a chosen process from a manufacturing company, create process maps, identify bottlenecks, and suggest TQM-driven process improvements for streamlining the operation.
4. Quality improvement case study. Students analyse the case, identify key TQM concepts applied, and evaluate the impact on quality and performance.

Project 15h:

Conducting a TQM audit for a chosen company. Students use a checklist of TQM principles and assess the organization's adherence to these principles, ultimately providing recommendations for improvement.

Bibliography:

1. John S. Oakland. Total Quality Management and Operational Excellence. Text with cases. Routledge, New York, 2014

2. EFQM (European Foundation for Quality Management), The EFQM Excellence Model, Brussels, 2013, National Institute of Standard and Technology, USA Malcolm Baldrige National Quality Award, Criteria for Performance Excellence, NIST, Gaithesburg, 2013.

3. Pyzdek, T. and Keller. P., The Handbook for Quality Management; A Complete Guide to Operational Excellence (2nd edn), ASQ, Milwaukee, 2013.

4. Antony, J. and Preece, D., Understanding, Managing and Implementing Quality, Routledge, London, 2002.

5. Biały W., Hąbek P.: An analysis of internal audits results - case study, Kvalita a spožahlivos technickych systemov = Quality and reliability of technical systems. Zbornik vedeckych prac. Slovenska Požnohospodárska Univerzita v Nitre. Technicka Fakulta. Nitra : Slovenska Požnohospodarska Univerzita, 2015, s. 6-11

6. Hąbek P.: Intelligent Improvement of Quality Management Focused on Company Social Responsibility, w: R. Ulewicz, M. Blaskova (eds.), Quality Production Improvement, Oficyna Wydawnicza Stowarzyszenia Menedżerów Jakości i Produkcji, Częstochowa 2016, pp.26-39.

7. Hąbek P.: Quality Engineering Tools in Production Process Improvement, MODERN MATHEMATICAL METHODS IN ENGINEERING, Cross-Border Exchange of Experience Production Engineering Using Principles of Mathematics, 2018 pp. 58-64

Learning outcomes:

Knowledge:
K2A_W01 At an in-depth level - selected facts, objects and phenomena, as well as methods, theories and conditions explaining the complex relationships between them and constituting advanced general knowledge in the field of engineering in relation to sustainable development concept.
K2A_W10 Selected issues in the field of advanced detailed knowledge typical of the field of study of management and production engineering.

Skills. Is able to:
K2A_U01 Use the acquired knowledge - formulate and solve complex and unusual problems and innovatively perform tasks in unpredictable conditions by:
-proper selection of sources and information derived from them; evaluation of the information, its critical analysis, synthesis, creative interpretation and presentation,
-adapting existing or developing new methods and tools.
K2A_U03 When identifying and formulating specifications for engineering tasks and solving them:
-use analytical, simulation and experimental methods,
-see their systemic and non-technical aspects, including ethical issues,
-make a preliminary economic assessment of proposed solutions and undertaken engineering activities."

Competences. Is ready to:
K2A_U14 Lead the work of a team, interact with others as part of teamwork and take the role of the team leader.

Assessment methods and assessment criteria:

1. Passing the lecture is based on a positive grade from the exam. Passing threshold: 50% of points.
2. The student may take the exam on the zero date without obtaining partial grades from exercises and project.
3. The student may take the exam on the first, second and third term after obtaining partial grades from the exercises and project.
Participation in lectures is not obligatory.

Exercises:
1. To pass the exercises, a positive assessment of each of the report is required.
2. The reports are assessed in terms of technical preparation and their content.
3. The arithmetic mean of the grades obtained from all reports is a partial grade for the exercises
4. During the classes, tasks are carried out in max. 3 person sections depending on the size of the group.
5. Participation in the classes is obligatory.

Project:
1. A positive evaluation of the project report is required to complete the project classes.
2. The report is assessed in terms of technical preparation and its content.
3. During project classes, tasks are carried out in max. 3 person sections depending on the size of the group.
4. Participation in the design classes is obligatory

The final grade for the subject is the arithmetic mean value of the exam grade and partial grades for exercises and project classes.

Practical placement: