SYLLABUS

Name: Sustainable Quality Management
Name in Polish:
Name in English: Sustainable Quality Management

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, semester VI
Term:	Spring semester 2024/2025
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 provides a comprehensive foundation in sustainable business practices and quality management. Students will explore the fundamentals of sustainability, quality management principles, the United Nations Sustainable Development Goals (UN SDGs), stakeholder relations, and continuous improvement methodologies. Through a balanced mix of lectures and hands-on exercises, participants will develop practical skills and insights to enhance sustainability and quality within organizations.

Description:
Lecture 30 h:

1. Introduction to Sustainability
2. Introduction to Quality management
3. UN SDGs
4. Stakeholders relations
5. Continuous improvement

Exercises 15h:

1. Using Failure Mode and Effects Analysis for sustainability
2. Using Quality Function Deployment for sustainability

Seminar 15h:
1. ISO 9001 and Sustainability: Analyze how ISO 9001 quality management standards can be extended to incorporate sustainability considerations.
2. The EFQM Excellence Model for Quality Management: Present an overview of the European Foundation for Quality Management (EFQM) model and its application in organizations.
3. The Role of Stakeholders in Sustainability: Explore the importance of stakeholder engagement in shaping an organization's sustainability practices

Bibliography:

1. Hąbek P.: The concept of using FMEA method for sustainable manufacturing, Systemy Wspomagania w Inżynierii Produkcji, Cross-border exchange of experience in production engineering using principles of mathematics, vol.6, iss.2, 2017, pp.49-55
2. Hąbek, P.; Lavios, J.J. Striving for Enterprise Sustainability through Supplier Development Process. Energies 2021, 14, 6256. https://doi.org/10.3390/en14196256
3. Hąbek, Patrycja, Lavios, Juan J. and Krupah, Edward. "How car producers are driving toward sustainable supplier development" Production Engineering Archives, vol.28, no.3, 2022, pp.268-278. https://doi.org/10.30657/pea.2022.28.33
4. Wassan, Asif & Memon, Muhammad Saad & Mari, Sonia Irshad & Kalwar, Muhammad. (2022). Impact of Total Quality Management (TQM) practices on Sustainability and Organisational Performance. Journal of Applied Research in Technology & Engineering. 3. 93-102. 10.4995/jarte.2022.17408.
5. https://efqm.org/the-efqm-model/

Learning outcomes:

Knowledge. Knows and understands:
K1A _W2 Theories and general methodology of research in management and quality sciences as well as the nature, place and importance of social sciences in engineering and managerial activities specific to the management and organization of sociotechnical systems.
K1A _W3 Basic engineering processes and technologies in the life cycle of technical equipment, objects and systems and ways of solving typical engineering tasks, particularly in relation to the organization of production processes and production management.
K1A _W5 Basic social, economic, legal, ethical and other non-technical conditions of engineering activity, including basic concepts and principles in the field of protection of industrial property and copyright.

Skills. Is able to:
K1A _U2 Identify, analyze and interpret social and economic phenomena and processes using knowledge in the field of social sciences and standard methods and tools of management and quality sciences in engineering management activities aimed at shaping the efficiency, productivity and organization of production enterprises.
K1A _U7 Work individually and in a team, assuming different roles in it, plan and organize this work, as well as interact with other people as part of teamwork (also of an interdisciplinary nature) using specialist terminology and modern information and communication technologies, and take part in the debate.
K1A _U10 Integrate and apply interdisciplinary knowledge from engineering and technical sciences incorporating principles and objectives of sustainable development to product life cycle management.

Social competences. Is ready for:
K1A _K3 Responsible performance of professional roles, compliance with the rules of professional ethics and requiring it from others, care for the achievements and traditions of the profession; is aware of the importance and understands non-technical aspects and effects of engineering activities.

Assessment methods and assessment criteria:

Lecture: Test of knowledge provided during lectures. Passing threshold: 50% of points.
Exercises: report on each completed exercises (arithmetic average of partial grades). Reports are assessed in terms of content and formal aspects.
Seminar: Essays that reflect the understanding of the topic, incorporating insights gained from the seminar discussion.
Course final grade: arithmetic mean of grades from lecture, project and seminar.

Practical placement: