COURSE DESCRIPTION CARD - SYLLABUS

Course name
Environment management [S2IBiJ1>ZS]

Course

Field of study
Safety and Quality Engineering

Year/Semester
2/3

Area of study (specialization)
Quality and Ergonomics in Work Safety

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
15

Projects/seminars
15

Number of credit points

4,00

Coordinators

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Lecturers

Prerequisites

Basic knowledge of enterprise management, work safety issues and aspects of the impact of processes implemented in an enterprise on the environment.

Course objective

Acquiring knowledge and skills related to the implementation of management functions in the enterprise and the impact of social, environmental and economic challenges on implemented processes and decisions made.

Course-related learning outcomes

Knowledge:
A student has structured and theoretically supported knowledge of quality and environmental management, systems approach to management, systems integrations and auditing of management systems in organizations [K2_W08].
A student knows in a depth-degree fundamental dilemas of modern civilization including legal, political, economics, ethical and moral transformations related to safety engineering, quality, ergonomics and occupational safety as well as crisis management [K2_W11].

Skills:
1. A student can design, in a team, using appropriately choosen measures, methods and techniques, selected elements of safety systems, quality and environmental in organizations [K2_U05].
2. A student can identify and recognize threats in work environment, assess their influence for unit, organization and their stakeholders as well as indicate the methods of proceeding focused on minimizing results of threats taking into account proenvironmental solutions [K2_U10].
3. A student can individually plan and realize his/her development and also motivate and guide others; a student can take care of development throughout life [K2_U014].

Social competences:
1. A student is ready to initiate activities related to impriving safety taking into account environmental solutions [K2_K03].
2. A student is ready to reliable perform of professional roles resulting from current economics and social needs, taking into consideration principles of safety and ecology [K2_K06].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture:
- lectures: a short test verifying knowledge (quick test) and an assessment for activity (also in the area of realized problem tasks),
- Lecture classes: on the basis of an exam with 20-30 questions. Passing threshold: 51% of points. Exam issues are developed on the basis of the content provided to students during lectures and additional materials indicated by the teacher will be provided during the last class;
Classes:
- exercises: on the basis of the arithmetic average of the grades for the tasks completed and handed over to the teacher.
Project:
-development of the project based on the given project plan; partial grade after the 2nd point of the project and for its presentation. A student receives credit after obtaining at least 51% of the required points. The detailed procedure is
described in the Academic Regulations.

Programme content

The topics of the classes include environmental management in organizations, with particular emphasis on the requirements of the ISO 14001:2015 standard.

Course topics

Lectures:
Contextual determinants of the functioning of enterprises, identification of elements of the organization's environment and their impact on its activities; management megatrends and their impact on the systemic management of the organization's environment. Environmental and health and safety
aspects in modern concepts of organization management (lean, green, sustainable). Norms and standards in the systemic management of the organization's environment. A risk-based approach in environmental management.
Classes:
Identification of significant environmental aspects and selection of supervision measures; planning activities aimed at supporting the organization in its relations with the external and internal environment. Expanding knowledge on the practical implementation of the ISO 14001:2015 standard.
Project:
Development of elements necessary to implement the ISO 14001:2015 standard in the indicated company.

Teaching methods

1. Problem lecture with elements of a conversation lecture, illustrated with multimedia presentations. The lecture is conducted using distance learning techniques in a synchronous mode. Acceptable platforms: eMeeting, Zoom, Microsoft Teams.
2. Classes - exercises carried out using the case study method and problem methods.

3. Project - a project method with elements of mindmapping.

Bibliography

Basic:
1. Matuszak-Flejszman A., Pochyluk R. (2010), Istota kontekstu organizacji w systemowym podejściu do zarządzania. Studia Oeconomica Posnaniensia, 4(10).
2. Stasiuk-Piekarska A., Włodarczyk A., “ Innovation in The Pursuit of Sustainable Manufacturing” Proceedings of the 36th International Business Information Management Association (IBIMA), ISBN: 978-0-9998551-5-7, 4-5 November 2020, Granada, Spain., s. 7363-7370.
3. Jasiulewicz-Kaczmarek M., Drożyner P. (2013), The Role of Maintenance in Re¬ducing the Negative Impact of a Business on the Environment, In: Erechtchoukova M. G., et al. (eds.), Sustainability Appraisal: Quantitative Methods and Mathe¬matical Techniques for Environmental Performance Evaluation, EcoProduction (pp. 142-166), Springer-Verlag Berlin Heidelberg.
4. Bryke M., Starzyńska B. (2015), Koncepcja Human Lean Green jako instrument zapewnienia zrównoważonego rozwoju organizacji ukierunkowany na wzrost jej efektywności. Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, 337.

Additional:
1. Laszlo Ch. (2008), Firma zrównoważonego rozwoju. Jak wypracować trwałą wartość z uwzględnieniem efektów społecznych i ekologicznych, Wydawnictwo Studio EMKA, Warszawa.
2. Kafel P. (2017), Integracja systemów zarządzania. Trendy, zastosowania, kierunki doskonalenia, Wydawnictwo UEK Krakow, Krakow.
3. PN-EN ISO 14001:2015, Systemy zarządzania środowiskowego. Specyfikacja i wytyczne stosowania.
4. PN-N ISO 14004:2016, Systemy zarządzania środowiskowego. Ogólne wytyczne dotyczące zasad, systemów i technik wspomagających.
5. Stasiuk-Piekarska A.K., Human factor in Industry 4.0 - perception of competences of graduates and employees, Smart and Sustainable Supply Chain and Logistics - Trends, Challenges, Methods and Best Practices Volume 1, Paulina Golinska-Dawson Kune-Muh Tsai Monika Kosacka-Olejnik Editors, wyd. Springer, Swizerlands 2020, ISSN 2193-4614 ISSN 2193-4622 (electronic) ISBN 978-3-030-61946-6 ISBN 978-3-030-61947-3 (eBook) https://doi.org/10.1007/978-3-030-61947-3, s. 257-265.
6. Educational materials of the Stowarzyszenie Polski Ruch Czystszej Produkcji (www.cp.org.pl).
7. Jiansu Mao, Chunhui Li, Yuansheng Pei, Linyu Xu (2018), Circular economy and sustainable development enterprises, Springer Nature, 2018.

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,00
Classes requiring direct contact with the teacher	45	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	55	2,00