COURSE DESCRIPTION CARD - SYLLABUS

Course name
Contemporary IT technologies in occupational health and safety

Course

Field of study
Safety Engineering
Area of study (specialization)

Level of study
First-cycle studies
Form of study
part-time

Year/Semester
4/7
Profile of study
general academic
Course offered in
Polish
Requirements
compulsory

Number of hours

Lecture
10
Laboratory classes
8
Other (e.g. online)

Tutorials
Projects/seminars

Number of credit points

3

Lecturers

Responsible for the course/lecturer:
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Faculty of Engineering Management
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Responsible for the course/lecturer:

Prerequisites

The student has basic knowledge of the methods of occupational risk assessment in the workplace and computer science classes.

The student is able to use basic computer programs.

The student is aware of the essence of computer skills.

Course objective

Teaching the practical computer applications supporting the management of work safety in an enterprise.

Course-related learning outcomes

Knowledge

1. The student has advanced knowledge of the risks and their effects, risk assessment in the work environment and occupational accidents and diseases [K1_W03].

2. The student knows the fundamental dilemmas of modern civilization and development trends as well as the best practices in the field of Safet Engineering [K1_W10].

3. The student knows at an advanced level the methods, techniques, tools and materials used in preparation for conducting scientific research and solving simple engineering tasks with the use of information technology, information protection and computer support [K1_W11].

Skills

1. The student is able to use analytical, simulation and experimental methods to formulate and solve engineering tasks, also with the use of information and communication methods and tools [K1_U04].

2. The student is able to plan, organize and implement individual and team work and carry out experiments, including measurements and computer simulations, interpret the obtained results and draw conclusions [K1_U11].

Social competences

1. The student is aware of the importance of knowledge in solving problems in the field of Safety Engineering and continuous improvement [K1_K02].

2. The student is aware of behavior in a professional manner, adherence to the principles of professional ethics and respect for the diversity of views and cultures [K1_K06].

3. The student is aware of the responsibility for their own work and readiness to submit to the rules of working in a team and bearing responsibility for jointly performed tasks [K1_K07].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

a) lectures: on the basis of a discussion on the material assimilated at previous lectures;

b) laboratories: on the basis of the content presented in the laboratory classes, the verified test, consisting of 5-10 tasks with different scores and partial assessments of the progress in the implementation of individual classes.

Passing threshold: 50% of points.

Summative assessment:

a) lectures: examination in the form of a written test.

b) laboratory: on the basis of the results of the average of the partial grades of the forming evaluation.

Passing threshold: 50% of points.

Programme content

Lecture:

Students will learn about the selected possibilities of supporting computer applications in the field of work safety offered on the international market, including Awardco, SiteDocs, Safetymint, Quentic, Certainty Software, and WorkHub; The Polish software will be characterized, ie: Management support software, ie OHS - STER and BHP Assistant - TARBONUS; VR trainings will be presented, i.e. a tool that allows you to transfer professional knowledge in safe and controlled conditions; An interactive online tool for occupational risk assessment (OiRA), developed by the European Agency for Safety and Health at Work (EU-OSHA), will be presented.

Laboratory classes:

Students will learn about the practical application of the software supporting occupational health and safety management - STER.

Teaching methods

Lecture: multimedia presentation.

Laboratories: dedicated computer software.

Bibliography

Basic

1. Ocena ryzyka zawodowego - wykorzystanie systemu STER. Praca zbiorowa. CIOP, Warszawa 2008.

2. Uzarczyk A. (2008), Ocena ryzyka zawodowego na stanowiskach narażonych na: czynniki szkodliwe, czynniki uciążliwe, zagrożenia wypadkowe wraz z programem komputerowym, ODDK, Gdańsk.

Additional

1. Karczewski J., Karczewska K. (2012), Zarządzanie bezpieczeństwem pracy, ODDK, Gdańsk.

2. Berkowska, A., Drzewiecka, M., Mrugalska, B. (2014), Świadomość pracodawców o istocie bezpieczeństwa pracy a poziom wypadków przy pracy w małych i średnich przedsiębiorstwach, Zeszyty Naukowe. Organizacja i Zarządzanie/Politechnika Śląska, z. 71, s. 21- 31.

3. Mocan A., Gaureanu A., Szabó G., Mrugalska B. (2022), Arguments for Emerging Technologies Applications to Improve Manufacturing Warehouse Ergonomics. In: Draghici A., Ivascu L. (eds) Sustainability and Innovation in Manufacturing Enterprises. Advances in Sustainability Science and Technology. Springer, Singapore.

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	18	1,0
Student's own work (literature studies, preparation for laboratory classes, preparation for tests and exam) [1]	57	2,0

[1] delete or add other activities as appropriate