COURSE DESCRIPTION CARD - SYLLABUS

Course name
Computer aided work processes safety [N2IBiJ1>KWBPP]

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
part-time

Requirements
compulsory

Number of hours

Lecture
10

Laboratory classes
10

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

Student has basic knowledge of occupational safety management system, can diagnose workplace environment and knows measurement methods in occupational safety. Student can use basic computer programs. Student is aware of the importance of computer use.

Course objective

Acquainting a student with function improvement methods that are realized to ensure the required level of occupational safety.

Course-related learning outcomes

Knowledge:
1. A student knows in a depth-degree methods and theories using in solving the problems of contemporary safety engineering, ergonomics and occupational safety as well as crisis management, including computer aided methods [K2_W03].
2. A student has a depth-degree knowledge and understanding of mathematics and statistics mechanism using in safety engineeering, quality, ergonomics and occupational safety as well as crisis management, that enable the use of computer support [K2_W05].

Skills:
1. A student can properly choose sources, including literature and informations from there as well as assesses, make critical analysis, synthesis and creative interpretation those information, drawn conclusions and exhaustive justify their opinion during presentation of results obtained using the Vademecum OHS, Vademecum HACCP - YARSTON [K2_U01].
2. A student can develop and properly use methods and tools of solving complex problems typical for the areas of safety engineering, quality, ergonomics and occupational safety as well as crisis management or choose and use existing, well-known methods and tools, including Health and Safety Vademecum, HACCP Vademecum - YARSTON and ODDK computer programs on OHS issues [K2_U03].
3. A student can identify changes of requirements, standards, regulations, innovations and technological and correctly use them in process of sovling problems in the areas of safety engineering, quality, ergonomics and occupational safety as well as crisis management, including using computer programs [K2_U06].

Social competences:
1. A student is critical in front of her/his knowledge, ready to consult of expert during solving cognitive and practical problems related with safety management in organizations, including those related to the use of computer support [K2_K01].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:
In the field of laboratory exercises: current checking of knowledge and skills during laboratories, evaluation of the performance of individual laboratory tasks.
In the field of lectures: the knowledge acquired during the lecture is verified on the basis of discussions on previous topics and attendance at the lecture.
Collective assessment:
In the field of laboratory exercises: based on the average of the partial grades of the formative phase.
In terms of lectures: based on a written exam consisting of 10-20 closed and/or open questions, scored differently. Passing threshold: 51% of points.
Grading system:
Points Grade:
0 - 50 Fail (2)
51 - 59 Satisfactory (3)
60 - 69 More than satisfactory but less than good (3+)
70 - 79 Good (4)
80 - 89 Very good (4+)
90 - 100 Excellent (5)

Programme content

Lecture:
Characterization of some basic functions that are realized by means of computer techniques to ensure workplace safety. Computer aided process safety at workplace. Diagnosing work processes. Computer aided health and safety management system at workplace. Characterization of the most commonly used computer programs in Polish companies such as Tarbonus, Vademecum BHP, Vademecum HACCP/ YARSTON, Use of machines and equipment in an enterprise - FORUM and health and safety computer programs of PENTA SOFT company.
Laboratories:
Practical application of programmes: Vademecum BHP, Vademecum HACCP - YARSTON and BHP - ODDK.

Course topics

Lecture:
1. Computer aided process safety at workplace. Diagnosing work processes. Computer aided health and safety management system at workplace.
2-7. Tarbonus, Vademecum BHP, Vademecum HACCP/

YARSTON, Use of machines and equipment in an enterprise - FORUM and health and safety computer programs of PENTA SOFT company.
Laboratories:
1-3. Vademecum BHP
4-5. Vademecum HACCP - YARSTON
6. BHP - ODDK.
7. Summary

Teaching methods

Lecture: multimedia presentation.
The lecture is conducted using distance learning techniques in a synchronous mode. Acceptable platforms: eMeeting, Zoom, Microsoft Teams.
Laboratories: computer programmes.

Bibliography

Basic:
1. Mrugalska B. (2012), Komputerowe wspomaganie bezpieczeństwa procesów pracy, Wydawnictwo Politechniki Poznańskiej, Poznań.

Additional:
1. Rączkowski B. (2010), BHP w praktyce, Wydawnictwo ODDK, Gdańsk.
2. Koradecka D. (red.) (2008), Bezpieczeństwo pracy i ergonomia, Wydawnictwo CIOP, Warszawa.
3. Dołęgowski B., Janczała S. (2008), Praktyczny poradnik dla służb bhp, Wydawnictwo ODDK, Gdańsk.
4. Niemir M., Mrugalska B. (2023), Data Science Challenges of Automated Quality Verification Process in Product Data Catalogues, Material Research Proceedings, vol. 34, p. 390-399.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	20	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00