# COURSE DESCRIPTION CARD - SYLLABUS

**Course name**
Computer aided work processes safety [S2IBiJ1>KWBPP]

## Course

| | |
|---|---|
| **Field of study**<br>Safety and Quality Engineering | **Year/Semester**<br>2/3 |
| **Area of study (specialization)**<br>Safety and Crisis Management | **Profile of study**<br>general academic |
| **Level of study**<br>second-cycle | **Course offered in**<br>Polish |
| **Form of study**<br>full-time | **Requirements**<br>compulsory |

## Number of hours

| Lecture | Laboratory classes | Other |
|---|---|---|
| 15 | 15 | 0 |

| Tutorials | Projects/seminars | |
|---|---|---|
| 0 | 0 | |

## Number of credit points

2,00

| Coordinators | Lecturers |
|---|---|
| dr hab. inż. Beata Mrugalska prof. PP<br>beata.mrugalska@put.poznan.pl | |

## 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. The 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. The 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 assisted learning [K2_W05].

Skills:
1. The student is able to properly select sources, including literature sources and information from them, as well as to evaluate, critically analyze, synthesize and creatively interpret this information, formulate conclusions and comprehensively justify the opinion during the presentation of the results obtained using the Vademecum OSH, Vademecum HACCP - YARSTON program [K2_U01].
2. The student is able to develop and properly apply methods and tools for solving complex problems specific to the area of safety engineering, quality, ergonomics and occupational safety and crisis management or select and apply existing and known methods and tools, including Vademecum BHP, Vademecum HACCP - YARSTON and computer programs on OSH issues of ODDK company [K2_U03].
3. The student is able to identify changes in requirements, standards, regulations, innovations and technical progress and use them appropriately in solving problems in the area of safety engineering, quality, ergonomics and occupational safety and emergency management, including through computer programs [K2_U06].

Social competences:
1. The 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 ncluding 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

## 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. Mrugalska B. (2013), Human factors in economics and organizational design, Publishing House of Poznan University of Technology.

## Breakdown of average student's workload

|  | Hours | ECTS |
|---|---|---|
| Total workload | 60 | 2,00 |
| Classes requiring direct contact with the teacher | 30 | 1,00 |
| Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation) | 30 | 1,00 |