



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Computer aided work processes safety

### Course

Field of study

Safety Engineering

Area of study (specialization)

Ergonomics and work safety

Level of study

Second-cycle studies

Form of study

part-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

### Number of hours

Lecture

10

Laboratory classes

10

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

2

### Lecturers

Responsible for the course/lecturer:

Beata Mrugalska, Ph.D, D.Sc., Eng

Responsible for the course/lecturer:

e-mail: [beata.mrugalska@put.poznan.pl](mailto:beata.mrugalska@put.poznan.pl)

phon: 61 665 33 65

Faculty of Engineering Management

Institute of Safety and Quality Engineering

ul. Rychlewskiego 2, 60-965 Poznań

### 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

- knows issues related to the area of ergonomics and occupational safety (P7S\_WG\_03),
- knows the issues of risk analysis, occurrence of threats and their effects in the work environment (P7S\_WG\_05),
- knows the basic methods, techniques and tools used when solving simple engineering tasks in the field of ergonomics and work safety with the use of computer support (P7S\_WK\_03),

#### Skills

- is able to properly select the sources and information derived from them, assess them and critically analyze and synthesize the information obtained, formulate conclusions and comprehensively justify the adopted opinion (P7S\_UW\_01),
- is able to see and formulate system and non-technical as well as socio-technical and organizational aspects relevant to the successful implementation of engineering tasks (P7S\_UW\_03),
- is able to use research, analytical, simulation and experimental methods to formulate and solve engineering tasks, also using information and communication methods and tools (P7S\_UW\_04),
- is able to make a critical analysis of the way it functions and evaluate existing technical solutions, in particular machines, devices, objects, systems, processes (P7S\_UW\_06),
- is able to plan and conduct experiments, including computer measurements and simulations, interpret obtained results and draw conclusions from them (P7S\_UO\_01),
- is able to identify changes in requirements, standards, regulations in order to adapt them to technical progress and the reality of the labor market and based on them determine the needs in the scope of supplementing own and other knowledge (P7S\_UU\_01),

#### Social competences

- is aware of the recognition of cause-effect relationships occurring during the implementation of the set goals and ranking the significance of the alternative or competitive solutions used (P7S\_KK\_01).

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

#### Formative assessment:

- laboratory classes: knowledge and abilities at classes, and reports
- lectures: 2 written tests: 7th and 15th lecture. Each tests consist of 5-10 opened questions. In order to pass the test, at least 50% of all points should be obtained.

#### Collective assessment:

- laboratory classes: the average of formative marks,
- lectures: the average of formative marks.



## 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.

## Teaching methods

Lecture: multimedia presentation.

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.

## Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	20	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests) <sup>1</sup>	30	1,0

<sup>1</sup> delete or add other activities as appropriate