



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Work Safety

Course

Field of study

Pharmaceutical Engineering

Area of study (specialization)

-

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

1/1

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

Number

### of hours

Lecture

4

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

0

### Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

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Wydział Technologii Chemicznej

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### Prerequisites

Student should know the theoretical basis of occupational safety and health. Student should be able to pursue self-directed learning. Student should understand the need for further self-learning of others (students).

### Course objective

To acquaint students with the basic principles of work in a chemical laboratory, practical ability of conducting an experiment in a safe way and working in a lab and getting acquainted with basis of substance management and prevention of chemical risks.



### Course-related learning outcomes

#### Knowledge

1. Knows the principles of safe work in a chemical lab, management of chemicals [K\_W27]
2. The graduate has a knowledge of techniques and methods of characterizing and identifying chemicals which are typical environmental pollutants [K\_W26]
3. The graduate has a knowledge of the risks associated with the implementation of chemical processes and risk assessment principles, knows international conventions and EU technical safety directives, and knows the rules governing the organization of the market in chemical products (REACH) [K\_W26]

#### Skills

1. The graduate know legal regulations in the area of product standards and testing standards. [K\_U21]
2. The graduate applies basic legal regulations and complies with regulations concerning health and safety at work [K\_U22]
3. The graduate acquires information from literature, databases and other sources related to chemical sciences, integrates, interprets and draws conclusions and formulates opinions. [K\_U1]
4. The graduate works individually and works effectively in a team. [K\_U25]

#### Social competences

1. The graduate is aware of the importance and understanding of non-technical aspects and effects of engineering activities, including its environmental impact and the resulting responsibility for his/her decisions.[K\_K3]
2. The graduate can appropriately determine the priorities for the implementation of tasks defined by the graduate or others. [K\_K5]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Completion of the course based on the test

### Programme content

The cycle of the OSH includes:

1. Basic principles of health and safety at work in laboratory
2. Related to exposure to chemical substances - identification and classification of hazards, familiarization with the construction and information contained in the Safety Data Sheets (in particular phrases of H and safety risk P),
3. Discussing the correct labeling of the packaging of a dangerous substance and dangerous preparation
4. Presentation of ways to reduce hazards, procedures for dealing with hazards in a student lab (spills, spills, oral or respiratory intoxication, chemical burns, fire, etc.);



5. Presentation of laboratory equipment with individual and collective protection measures
6. Discussion of proceedings in the event of an accident, breakdown or fire (first premedical aid, escape routes).

### Teaching methods

lecture: multimedia presentation and discussion of examples

### Bibliography

Basic

1. R. Kowal, Bezpieczeństwo i higiena pracy przy stosowaniu substancji i preparatów chemicznych, Ośrodek Szkolenia PIP, Wrocław 2006.
2. P. Kowalski, Laboratorium chemii organicznej, techniki pracy i przepisy bhp, WNT, Warszawa 2008.
3. M. Wasilewski, W. Dawydow, Bezpieczeństwo w pracowni chemicznej, WNT, Warszawa 2009.
4. G. Gałuszka, Pierwsza pomoc w nagłych wypadkach, Tarbonus, Kraków-Tarnobrzeg 2009.
5. Aktualne akty prawne obejmujące zagadnienia związane z bhp i czynnikami chemicznymi w miejscu pracy
6. J.A. Young Ed., Safety in Academic Laboratories, Am, Chem. Soc., Washington DC, 2003

Additional

Miesięczniki „Bezpieczeństwo pracy”, „Atest”

### Breakdown of average student's workload

	Hours	ECTS
Total workload	4	0,0
Classes requiring direct contact with the teacher	4	0,0
Student's own work (literature studies, preparation for test) <sup>1</sup>	0	0,0

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