



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Workplace Health and Safety [S2IChiP1>BHP]

### Course

Field of study

Chemical and Process Engineering

Year/Semester

1/1

Area of study (specialization)

Bioprocesses and Biomaterials Engineering

Profile of study

general academic

Level of study

second-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

4

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

0,00

### Coordinators

dr hab. inż. Joanna Zembrzuska

joanna.zembrzuska@put.poznan.pl

### Lecturers

### 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 basic rules of safe and hygienic work in the process of educating a chemist (rules of safe work in a chemical laboratory, working with chemical substances). [k\_w3, k\_w8]
2. knows the basic principles of providing first aid and the rules of conduct in case of fire [k\_w11]
3. is aware of the dangers that may occur during practical classes in chemical laboratories, can correctly identify the dangers [k\_w3, k\_w11]

2. is aware of the impact and importance of complying with the principles of safe and hygienic work on their own and others" safety [k\_k2, k\_k3]

Skills:

1. has the ability to assess threats, prevent them [k\_u1, k\_u11]
2. has the ability to act and behave appropriately in the event of an emergency [k\_u11]
3. has the skills necessary to work in the laboratory in terms of health and safety rules [k\_u09, k\_u11]
4. has the ability to use safety data sheets of hazardous substances [k\_u11]
5. correctly recognizes pictograms, which can be assigned the appropriate meaning [k\_u11]
6. can provide first aid [k\_u11]

Social competences:

1. is aware of and understanding the social aspects of the practical application of the acquired

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Stationary lecture: pass on the basis of the presence on lecture and graded a test to check the knowledge (pass from 51% correct answers).

If it is necessary to conduct a lecture in on line form - pass on the basis of the presence on on line lecture and graded a test to check the knowledge via the e-courses platform (credit from 55% of correct answers).

### 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, oral or respiratory intoxication, chemical burns, fire, etc.); Indoor exposure to radon and health risk associated with radon exposure;
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).

### Course topics

none

### 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	0,00
Classes requiring direct contact with the teacher	4	0,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	0	0,00