



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

A short course in occupational safety [S2TOZ1>PSzZBHP]

### Course

Field of study	Year/Semester
Circular System Technologies	1/1
Area of study (specialization)	Profile of study
Material recycling and chemical recovery	general academic
Level of study	Course offered in
second-cycle	Polish
Form of study	Requirements
full-time	compulsory

### Number of hours

Lecture	Laboratory classes	Other
4	0	0
Tutorials	Projects/seminars	
0	0	

### Number of credit points

0,00

### Coordinators

dr hab. inż. Joanna Zembrzuska prof. PP  
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. The graduate has a knowledge of techniques and methods of characterizing and identifying chemicals which are typical environmental pollutants [K\_W06]
2. 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\_W01]

#### Skills:

1. The graduate know legal regulations in the area of product standards and testing standards. [K\_U04]
2. The graduate applies basic legal regulations and complies with regulations concerning safety and health at work [K\_U04]
3. The graduate acquires information from literature, databases and other sources related to chemical sciences, integrates, interprets and draws conclusions and formulates opinions. [K\_U15]
4. The graduate works individually and works effectively in a team. [K\_U15]

#### 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\_K02, K\_K03]
2. The graduate can appropriately determine the priorities for the implementation of tasks defined by the graduate or others. [K\_K04]

### 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

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 topics

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	0,00
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