



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Working safety

| | | Course |
|--------------------------------|--|-------------------|
| Field of study | | Year/Semester |
| Chemical Technology | | I/1 |
| Area of study (specialization) | | Profile of study |
| - | | general academic |
| Level of study | | Course offered in |
| First-cycle studies | | English |
| Form of study | | Requirements |
| full-time | | compulsory |

| | | | Number |
|--------------------------------|--------------------|---------------------|--------|
| of hours | | | |
| Lecture | Laboratory classes | Other (e.g. online) | |
| 4 | 0 | 0 | |
| Tutorials | Projects/seminars | | |
| 0 | 0 | | |
| Number of credit points | | | |
| 0 | | | |

Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

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 knowledge of the hazards associated with the implementation of chemical processes and knows the principles of risk assessment, knows the international conventions and EU directives on process safety, and knows the rules governing the organization of the market in chemical products (REACH). [K_W18]
2. The graduate knows the rules of environmental protection related to chemical technology and waste management [K_W07]

Skills

1. The graduate has the skills and competencies necessary to work in an industrial environment and knows the principles of occupational safety and health. [K_U10]
2. The graduate can obtain necessary information from literature, databases and other sources related to chemical sciences, interpret them properly, draw conclusions, formulate and justify opinions. [K_U01]
3. The graduate can apply basic legal regulations and comply with health and safety regulations at work [K_U28]
4. The graduate can implement the proper management of waste by way of utilization and recycling. [K_U29]

Social competences

1. The graduate is aware of the importance and understanding non-technical aspects and results of the engineer's job, including its environmental impact and the resulting responsibility for all decisions made. [K_K02]
2. The graduate can correctly identify problems and makes appropriate career choices, in accordance with professional ethics. [K_K05]

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 safety and health 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 laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹ | 0 | 0 |

¹ delete or add other activities as appropriate