



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Occupational diseases

### Course

Field of study

Safety Engineering

Area of study (specialization)

Ergonomics and Work Safety

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

1/2

Profile of study

general academic

Course offered in

Polish

Requirements

elective

### Number of hours

Lecture

15

Tutorials

15

Laboratory classes

Projects/seminars

Other (e.g. online)

### Number of credit points

3

### Lecturers

Responsible for the course/lecturer:

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## Prerequisites

The student has basic knowledge of ergonomics and occupational safety, is able to interpret the relationships in the human-technical object system, and organize work taking into account the reduction of physical and mental loads for the human body. In addition, the student is aware of the social role of a technical university graduate and understands the legitimacy of health protection at work.

## Course objective

To acquaint the Student with theoretical and practical problems related to the impact of work on human health, which in turn should enable the acquisition of the ability to control the degree of harmfulness of working conditions and strive to minimize it in all situations related to work.

## Course-related learning outcomes

### Knowledge

1. The student knows issues in the field of ergonomics and occupational safety, in connection with the issues of occupational health [P7S\_WG\_03]
2. The student knows the issues of the costs of occupational diseases and work-related illnesses and understands the functioning of insurance systems [P7S\_WG\_04]

### Skills

1. The student is able to correctly select the sources and information derived from them, using them to analyze and evaluate data on the health of working populations, formulate conclusions based on these data and propose remedial actions in relation to the risk of occupational diseases [P7S\_UW\_01]
2. Student is able to use research, analytical, simulation and experimental methods to formulate and solve organizational problems in the field of health security [P7S\_UW\_04]
3. The student is able to make a critical analysis of the organization's functioning in the context of its security policy and assess - in conjunction with Security Engineering - the existing organizational and technical solutions, proposing corrective actions to improve the level of health safety [P7S\_UW\_06]
4. Student is able to identify changes in requirements, standards, regulations, technical progress and the reality of the labor market, and based on them determine the needs to supplement own knowledge and others in the field of occupational diseases [P7S\_UU\_01]

### Social competences

1. The student is aware of the recognition of cause and effect relationships in the implementation of the set goals and organizational tasks, including health security of employees [P7S\_KK\_01]
2. The student is aware of the recognition of the importance of knowledge in solving problems in the field of safety engineering and continuous improvement in topics related to occupational diseases [P7S\_KK\_02]
3. The student is able to initiate activities related to the formulation and transfer of information on the risk of occupational diseases and work-related diseases [P7S\_KO\_02]



4. The student is aware of the responsibility for own work and readiness to comply with the principles of teamwork and taking responsibility for jointly implemented tasks focused on the prevention of occupational diseases [P7S\_KR\_02]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

forming assessment:

Lecture: knowledge is verified by short colloquia after the third and sixth teaching unit short test and problem tasks. The pass mark is 50%+1.

Exercises: skills and social competences are verified through partial grades, resulting from work in teams, activity bonuses and independent problem solving. Passing threshold: 50%+1.

summative rating:

Lecture: knowledge is verified by an oral exam covering basic concepts of human functioning in the work environment, including occupational health problems, methodology of diagnosing these problems and legal qualification of occupational disease. The credit threshold: 50%+1.

Exercises: the average of partial grades and the grade of the plan of preventive actions prepared by students at the workplace. Pass mark: 50%+1.

### Programme content

Lecture: Health - a historical outline, evolution of the concept, modern approaches (biomedical, holistic, A. Antonovsky's salutogenesis model, homeostasis vs. homeodynamics). Health determinants according to Marc Lalonde. Basics of the physiology of the human body. Selected issues of biomechanics and anthropometry. Occupational disease as a medical and legal concept. Impact of harmful and arduous factors in the work environment. Hazard analysis at the workplace. Occupational disease - the process of recognition and adjudication. Occupational diseases resulting from the effects of factors harmful to the work environment. Review, incidence distribution, change trends. Occupational diseases caused by the way the work is performed. Ergonomic risk factors. Work related illnesses. Pathologies of the working environment as a threat to mental health. Stress and its consequences, addictions in the workplace. Health prevention. Popularization of the concept of health promotion in the workplace. Shaping a health safety culture.

Exercises: Lalonde's concept of health domains. Quality of life - Quality of life in Europe. Occupational diseases caused by harmful factors and the way of working. Scenario of prophylactics and promotion of prevention of occupational diseases in the workplace. Health prevention. Popularization of the concept of health promotion at work.

### Teaching methods

Lecture: multimedia presentation illustrated with examples, informative lecture, seminar lecture.



Exercises: multimedia presentation illustrated with examples, practical exercises, talk, exposing methods (film, show), panel discussion, simulating expert debates, case study, brainstorming.

## Bibliography

### Basic

1. Sadłowska-Wrzesińska J., Lewicki L., Podstawy bezpieczeństwa i zdrowia w pracy, Wydawnictwo WSL, Poznań, 2018.
2. Sadłowska-Wrzesińska J., Lewicki L., Istotne aspekty BHP, Wydawnictwo WSL, Poznań, 2014.
3. Horst W.M., Wprowadzenie do diagnozowania sposobu wykonywania pracy. Wybrane zagadnienia fizjologii, biomechaniki i antropometrii, Wyd. Politechniki Poznańskiej, 2012.
4. Wejman M., Higiena pracy, Wyd.Politechniki Poznańskiej, Poznań, 2012.

### Additional

1. Sadłowska-Wrzesińska J., Work safety culture. Development in the conditions of civilizational solstice, Aspra, Warsaw, 2018.
2. Gałusza M., Langer W., Accidents and occupational diseases. Documentation, proceedings, case law, Tarbonus, 2013.
3. Nejman Ż., Brenk M., Wnuk S., Jakość życia a miernik odpowiedzialności spółek giełdowych, Katedra Zarządzania Politechniki Łódzkiej, 2015

## Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam) <sup>1</sup>	45	2,0

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