



## DESCRIPTION OF THE OBJECT

<b>FIELD OF STUDY</b>	<b>Management</b>
<b>SPECIALISATION</b>	Occupational health and safety management
<b>MODE OF STUDY</b>	Full-time studies / Part-time studies
<b>SEMESTER</b>	4

<b>Name of the subject</b>	<b>Harmful and hazardous agents</b>	
<b>Hourly dimension of particular forms of classes</b> <ul style="list-style-type: none"><li>lectures</li><li>other forms</li></ul>	Full-time studies – 30 Part-time studies - 18	
	Full-time studies – 10 Part-time studies – 8	
	Full-time studies – 20 Part-time studies – 10	

<b>Learning objectives:</b>	- To introduce students to dangerous and harmful factors in the work environment and methods of their identification. - To discuss key legal regulations specifying actions aiming at identification, prevention, elimination and removal of threats in the work environment.
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<b>Learning outcomes for the subject</b>			
<b>Number</b>	<b>Learning outcomes, a student who has successfully completed the course will be able to:</b>	<b>Reference of learning outcomes for the programme</b>	<b>The reference to the learning outcomes for the area</b>
EK_W01	Describe the factors that are dangerous and harmful to the health and life of workers.	K_W08 K_W18	P6S_UW P6S_WK
EK_U02	Identify and describe the most important legal acts and regulations contained therein, which specify ways of preventing risks and eliminating or reducing them in the company.	K_W14 K_W16	P6S_WK
EK_U03	Assess the state of the working environment in terms of safety and identify hazardous and harmful factors in the workplace.	K_U04 K_U06	P6S_UW
EK_K04	Update knowledge of hazardous and noxious factors in the working environment and take action for professional development.	K_K01 K_K03	P6S_KK
EK_K05	Appreciate the importance of occupational health and safety and standards for the effective elimination of occupational hazards.	K_K05	P6S_KO

<b>Content number</b>	<b>Educational/ curricular content</b>	<b>Reference to learning outcomes for the subject</b>
	<b>Lectures</b>	

T_01	Basic concepts. Categories and types of hazardous and noxious agents: physical, chemical, biological and psychosocial.	EK_W01 EK_U03
T_02	Sources of law regulating the issue of permissible concentrations of harmful agents in the working environment. Definitions: maximum permissible concentration and intensity of a harmful agent in the working environment, maximum instantaneous concentration and intensity, maximum permissible concentration and intensity of a ceiling.	EK_W02 EK_U03
T_03	Characteristics of tests and measurements of harmful factors: physical, chemical and biological for health in the work environment in accordance with the Labour Code and the Regulation of the Minister of Health of 2011: mode, methods, type and frequency of research.	EK_W02 EK_U03 EK_K04
T_04	Health and safety conditions related to noise, dust, mechanical vibration, radiation, electromagnetic field.	EK_W01 EK_U03 EK_K05
T_05	Thermal hazards in the working environment, thermal loads on workers, thermal load indices.	EK_W01 EK_U03 EK_K05
T_06	Classification and listing of harmful chemical agents, lists of work exposing workers to chemical agents, register of work exposing and register of workers, protective procedures.	EK_W01 EK_W02 EK_U03 EK_K04 EK_K05
T_07	Classification and listing of harmful biological agents, lists of works which expose workers to biological agents, work-exposure register and workers' register, risk assessment, protective procedures.	EK_W02 EK_U03 EK_K04 EK_K05
	<b>Exercises</b>	
T_08	Ways of obtaining information on harmful and hazardous factors present in the environment.	EK_W01 EK_U03
T_09	Requirements for laboratories carrying out measurement and testing of harmful factors in the working environment. Recording, documenting and making available the results of measurements.	EK_W02 EK_U03 EK_K05
T_10	Techniques for the prevention of harmful and hazardous effects of chemical and physical work factors. Individual and collective protection measures.	EK_W01 EK_U03 EK_K05
T_11	Ways of assessing the effectiveness of actions taken to eliminate harmful and hazardous factors in the work environment.	EK_U03 EK_K05
T_12	Practical application of the classification of chemical substances and preparations according to harm and hazard. Warning signs, pictograms. Safety data sheet for hazardous substances.	EK_W01 EK_W02 EK_U03 EK_K04 EK_K05
T_13	The role of legislation in eliminating risks and improving worker safety.	EK_W02 EK_K04 EK_K05

Methods and forms of teaching	Educational and curricular content
Lecture with multimedia presentation of selected issues	
Conversation lecture	T_01 – T_07

Problem-based lecture	
Informative lecture	
Discussion	
Working with text	
Case study method	T_08 – T_13
Problem-based learning	
Didactic/simulation game	
Exercise method	T_08 – T_13
Workshop method	
Project method	
Multimedia presentation	
Audio and/or video demonstrations	
Activation methods (e.g. brainstorming, SWOT analysis technique, decision tree technique, „snowball” method, constructing „mind maps”)	
Other (which ones?) - ...	
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<b>Evaluation criteria in relation to particular learning outcomes</b>				
<b>Learning outcome</b>	<b>For assessment 2</b>	<b>For assessment 3</b>	<b>For assessment 4</b>	<b>For assessment 5</b>
EK_W01	The student is not able to name and describe dangerous and harmful factors for the health and life of employees.	The student is able to list and describe the most important characteristics of dangerous and harmful factors for the health and life of workers.	The student is able to name and describe factors which are dangerous and harmful to the employee's health and presents solutions which can be applied in order to eliminate them.	The student is able to name and characterise factors which are dangerous and harmful to the employee's health and presents solutions which can be applied in order to eliminate them and knows the consequences of their influence on the body.
EK_W02	The student is not able to indicate and describe legal acts and regulations concerning dangerous and harmful factors in the work environment.	The student is able to indicate and describe legal acts and regulations concerning dangerous and harmful factors in the work environment.	Students will be able to identify and describe legal acts and their regulations concerning hazardous and damaging factors in the work environment and select the most relevant ones for a given enterprise.	The student is able to indicate and describe legal acts and regulations concerning dangerous and harmful factors in the work environment and select the most relevant for a given establishment and workplace.
EK_U03	The student is not able to analyse the work environment in terms of safety and recognise dangerous and harmful factors at the workplace.	The student is able, to a basic degree, to analyse the work environment in terms of safety and to recognise dangerous and harmful factors at the workplace.	The student is able to analyse the work environment in terms of safety and recognition of dangerous and harmful factors at the workplace.	The student is fully able to analyse the work environment in terms of safety and to recognise dangerous and harmful factors at the workplace.
EK_K04	The student does not update his knowledge in the field of dangerous and harmful factors in the work environment and does not undertake actions aimed at professional improvement.	The student updates his knowledge of hazardous and noxious factors in the work environment to a basic degree and takes actions to improve his professional skills.	The student updates his/her knowledge of hazardous and noxious factors in the work environment to a due degree and undertakes actions to improve his/her professional skills	The student fully updates his/her knowledge of hazardous and harmful factors in the work environment and undertakes actions to improve his/her professional skills

EK_K05	The student does not appreciate the importance of occupational health and safety and its standards for the effective elimination of occupational hazards.	The student has a basic appreciation of the importance of occupational safety and health and its standards for the effective elimination of occupational hazards .	The student has a good appreciation of the importance of occupational health and safety and its standards for the effective elimination of occupational hazards.	The student fully appreciates the importance of occupational health and safety and standards for the effective elimination of occupational hazards.
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Verification of learning outcomes	EK symbols for the module/subject				
	W01	W02	U03	K04	K05
Written examination					
Oral examination					
Written credit					
Oral credit	X	X	X	X	X
Written colloquium					
Oral colloquium	X	X	X	X	X
Test					
Project					
Written work					
Report					
Multimedia presentation					
Work during exercise	X	X	X	X	X
Other (which?) -					

Hourly teaching load and student workload	Full-time studies	Part-time studies
1. Lectures (joint participation of academics and students)	10	8
2. Other forms (joint participation of academic staff and students)	20	10
3. Consultation with the teacher	-	-
<b>Total 1+2+3</b>	<b>30</b>	<b>18</b>
4. Internships (carried out by students on their own)	—	—
5. Student's own work (including homework and project work, preparation for a credit/exam)	20	32
<b>Total 4+5</b>	<b>20</b>	<b>32</b>
<b>SUMMARY 1+2+3+4+5</b>	<b>50</b>	<b>50</b>
<b>Total ECTS credits according to the study plan</b>	<b>2</b>	

<b>Reference literature</b>	<p>1. Augustyńska D. , Pośniak M. <i>Czynniki szkodliwe w środowisku pracy. Wartości dopuszczalne</i>. Centralny Instytut Ochrony Pracy, Warszawa 1999</p> <p>2. Grausz T. <i>Zagrożenia czynnikami biologicznymi w miejscu pracy</i>, Warszawa, 2009, PWN</p> <p>3. Myrcha K. ,Wrobel J. , Gierasimiuk J. ,<i>Zagrożenia czynnikami niebezpiecznymi i szkodliwymi w środowisku pracy</i>, CIOP, Warszawa 2000</p>
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	<p>4. Uzarczyk A., Zabiegała W. <i>Charakterystyka czynników szkodliwych i niebezpiecznych w środowisku pracy</i>, Gdańsk, ODDK1998</p> <p>5. Rozporządzenie Ministra Gospodarki i Pracy z dnia 5 sierpnia 2005r. w sprawie bezpieczeństwa i higieny pracy przy pracach związanych z narażeniem na hałas lub drgania mechaniczne (Dz. U. Nr 157, poz. 1318)</p> <p>6. Rozporządzenie Ministra Zdrowia z dnia 22 kwietnia 2005 r. w sprawie szkodliwych czynników biologicznych dla zdrowia w środowisku pracy oraz ochrony zdrowia pracowników zawodowo narażonych na te czynniki (Dz. U. 2005 nr 81 poz. 716)</p> <p>7. Rozporządzenie Ministra Zdrowia z dnia 2 lutego 2011 r. w sprawie badań i pomiarów czynników szkodliwych dla zdrowia w środowisku pracy (Dz. U. Nr 33 Poz. 166)</p> <p>8. Ustawa o substancjach i preparatach chemicznych.( Dz. U. 02.142.1187)</p>
<p><b>Complementary literature</b></p>	<p>1.Hansen A. <i>Bezpieczeństwo i higiena pracy</i>. Wydawnictwa Szkolne i Pedagogiczne. Warszawa 1997</p> <p>2.Zawierskiego W. M., <i>Ochrona przed hałasem i drganiami w środowisku pracy</i> , red. D. Augustynskiej, CIOP Warszawa 1999</p>