



DESCRIPTION OF THE OBJECT

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

Name of the subject	Ergonomic aspects of the working environment
Hourly dimension of particular forms of classes <ul style="list-style-type: none">lecturesother forms	Full-time studies – 30 Part-time studies – 18
	Full-time studies – 10 Part-time studies – 8
	Full-time studies – 20 Part-time studies – 10

Learning objectives:	– The aim of the course is to familiarise students with basic issues related to ergonomics understood in an interdisciplinary sense, to make them aware of threats and problems (including health problems) related to improper ergonomic solutions at workplaces and in life outside work, as well as benefits resulting from correct actions in this respect.
-----------------------------	---

Number	Learning outcomes, a student who has successfully completed the course will be able to:	Reference of learning outcomes for the programme	The reference to the learning outcomes for the area
EK_W01	The student applies in practice the knowledge of ergonomics principles in the work environment	K_W01	P6S_WG
EK_W02	The student has basic knowledge about the principles of safety and hygiene at work, as well as he knows the principles of safe work in the work environment with the threats of dangerous, harmful and arduous factors	K_W02	P6S_WG
EK_U03	can use basic ergonomics terminology	K_U01	P6S_UW
EK_U04	the student is able to use legal acts in the field of work safety and ergonomics	K_U06	P6S_UW
EK_K05	is familiar with the principles and conditions of active participation in group work and organising and leading small groups, and is able to use this knowledge and skills when interacting with a group in various roles	K_K04	P6S_KO

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

T_01	<p>Work in human life:</p> <ul style="list-style-type: none"> - Definitions of work - Human needs as a basis for work motivation - Worker's adaptation process to work 	EK_W01 EK_W02
T_02	<p>Basic ergonomics:</p> <ul style="list-style-type: none"> - Definitions of ergonomics - The interdisciplinary character of ergonomics - The application of ergonomics in human life 	EK_W01 EK_W02
T_03	<p>Material working conditions:</p> <ul style="list-style-type: none"> - Definition of material working conditions - Microclimate - Dust - Lighting - Colours - Noise - Vibrations - Radiation 	EK_W01 EK_W02
T_04	<p>Physiology of the human body and human work:</p> <ul style="list-style-type: none"> - System and systems of the human body - Fatigue and stress - Working time and rest periods 	EK_W01 EK_W02
T_05	<p>Selected ergonomic factors in shaping the work environment:</p> <ul style="list-style-type: none"> - Building features - Anthropometric features as a basis for workspace design - Human posture at work - Manual handling of heavy objects - Field of vision 	EK_W01 EK_W02
T_06	<p>The human nervous system and mental work</p> <ul style="list-style-type: none"> - The human nervous system - Memory and attention - Excitation and inhibition processes - Principles of mental hygiene 	EK_W01 EK_W02
	Exercises	
T_07	<p>Ergonomic research:</p> <ul style="list-style-type: none"> - Ergonomic design evaluation of machinery and equipment: checklist, ergonomic checklist, ergonomic evaluation sheet for machinery and equipment 	EK_U03 EK_U04 EK_K05
T_08	<p>Methods and techniques used in ergonomic studies of human activities in the work process: examination of physical and mental load</p>	EK_U03 EK_U04 EK_K05
T_09	<p>Labour protection:</p> <ul style="list-style-type: none"> - Occupational diseases: definition of occupational diseases, diagnosis, prevention 	EK_U03 EK_U04 EK_K05
T_10	<p>Ergonomics in work environment design: characteristics of selected work environments</p>	EK_U03 EK_U04

Methods and forms of teaching	Educational and curricular content
Lecture with multimedia presentation of selected issues	
Conversation lecture	T_01 – T_06
Problem-based lecture	
Informative lecture	
Discussion	
Working with text	
Case study method	T_07 – T_10
Problem-based learning	
Didactic/simulation game	
Exercise method	T_07 – T_10
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?) - ...	
...	

Evaluation criteria in relation to particular learning outcomes				
Learning outcome	For assessment 2	For assessment 3	For assessment 4	For assessment 5
EK_W01	The student does not apply in practice the knowledge of ergonomics principles in the work environment.	The student applies in practice to a limited extent the knowledge of ergonomics principles in the work environment.	The student applies in practice the knowledge of ergonomics principles in the work environment.	The student applies in practice the knowledge of ergonomics principles in the work environment fully correctly.
EK_W02	The student has no basic knowledge of the principles of occupational safety and health.	The student has basic knowledge about the principles of safety and hygiene at work, he sufficiently knows the principles of safe work in the work environment with the risk of dangerous, harmful and arduous factors.	The student has basic knowledge about the principles of safety and hygiene at work, as well as he knows the principles of safe work in the work environment with threats of dangerous, harmful and arduous factors.	The student has more than basic knowledge of the principles of safety and hygiene at work, and fully knows the principles of safe work in the work environment with threats of dangerous, harmful and arduous factors.
EK_U03	The student is not able to use basic	The student is able to use basic ergonomics	The student is able to use basic	The student is able to use the basic

	terminology in ergonomics.	terminology to a limited extent.	terminology in ergonomics.	terminology of ergonomics in a fully independent and correct manner.
EK_U04	The student is not able to use the legal acts in the field of work safety and ergonomics.	The student is not always able to correctly use the legal acts in the field of work safety and ergonomics.	The student is able to use legal acts in the field of work safety and ergonomics.	The student is able to independently and correctly use the legal acts in the field of work safety and ergonomics.
EK_K05	Students will learn about the rules and conditions of active participation in group work as well as organising and leading small groups.	The student knows the principles and conditions of active participation in group work and organising and leading small groups, and is able to use this knowledge and skills in cooperation with a group, taking various roles in it.	The student knows the principles and conditions of active participation in group work and organising and leading small groups, but also knows how to use this knowledge and skills in cooperation with a group, taking various roles in it.	The student knows the principles and conditions of active participation in group work and organising and leading small groups, but also knows how to use this knowledge and skills in cooperation with a group to a very good extent and is able to take various roles in it.

Verification of learning outcomes	EK symbols for the module/subject				
	W01	W02	U03	U04	K05
Written examination					
Oral examination					
Written credit	X	X	X	X	
Oral credit					
Written colloquium	X	X	X	X	X
Oral colloquium					
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	-	-
Total 1+2+3	30	18
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

Total 4+5	20	32
SUMMARY 1+2+3+4+5	50	50
Total ECTS credits according to the study plan	2	

Reference literature	<p>1. Wróblewska M.: Ergonomia-skrypt dla studentów, wyd. Politechniki Opolskiej, Opole 2004</p> <p>2. Kowal E.: Ekonomiczno-społeczne aspekty ergonomii, Wyd. Naukowe PWN, Warszawa, 2002.</p>
Complementary literature	<p>Górska E.: Ergonomia - Projectowanie, diagnoza, eksperymenty, Wyd. Politechniki Warszawskiej, Warszawa, 2002.</p> <p>Lewandowski J.: Ergonomia, MARCUS, Łódź, 1995.</p> <p>Olszewski J.: Podstawy ergonomii i fizjologii pracy, Akademia Ekonomiczna, Poznań, 1993.</p>