

Occupational safety and ergonomics - course description

General information	
Course name	Occupational safety and ergonomics
Course ID	13.9-WB-OS2P-Bezpr-S17
Faculty	Faculty of Biological Sciences
Field of study	Environmental Protection
Education profile	academic
Level of studies	First-cycle studies leading to Bachelor's degree
Beginning semester	winter term 2021/2022

Course information	
Semester	2
ECTS credits to win	2
Course type	obligatory
Teaching language	english
Author of syllabus	dr Artur Wandycz

Classes forms					
The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Lecture	15	1	-	-	Credit with grade

Aim of the course

Understanding the changes that occur in the human body at work. Ability to measure and assess the results of anthropometric measurements. Ability to adapt working conditions to the capabilities and limitations of the human body. Improving the skills of teamwork and individual work.

Prerequisites

Basics of human anatomy and human physiology - secondary school level.

Scope

Ergonomics. Anthropometry. Axes and planes of the body. The measurements of the human body. Joints and movements. Biomechanics of the spine. Positions and posture, postural angles. Strength, power and muscle efficiency. Work physiology. Maximum oxygen consumption and oxygen debt. Energy expenditure. Thermoregulation. Microclimate factors. Noise. Lighting. Energy expenditure. Occupational risk.

Teaching methods

Lecture, discussion, demonstration (teaching).

Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
The graduate student explains basic notions from range of hygiene, conservative and environmental medicine, describes parts of natural environments, indicates sanitary meaning of them; graduate student knows health background.	K1A_W19	- a discussion - a pass - oral, descriptive, test and other	Lecture
The graduate student is able to explain the basis of pathological phenomenon related to musculoskeletal system.	K1A_W76	- a discussion - a pass - oral, descriptive, test and other	Lecture
The graduate student calls and describes techniques and investigative instruments used in ergonomics.	K1A_W03	- a discussion - a pass - oral, descriptive, test and other	Lecture
The graduate student selects and uses techniques and investigative instruments used in ergonomics.	K1A_U01	- a discussion - a pass - oral, descriptive, test and other	Lecture
The graduate student is aware of basic principles of safety and hygiene of work and ergonomics.	K1A_W04	- a discussion - a pass - oral, descriptive, test and other	Lecture
The graduate student is able to explain the function of the human movement system; to explain sequence of biochemical reaction in muscles; graduate student distinguishes types of physical activity.	K1A_W75	- a discussion - a pass - oral, descriptive, test and other	Lecture

Outcome description	Outcome symbols	Methods of verification	The class form
The graduate student has knowledge of human physiology and anatomy.	• K1A_W01	• a discussion • a pass - oral, descriptive, test and other	• Lecture
The graduate student defines notions and physical processes in human organism as well as in environment.	• K1A_W02	• a discussion • a pass - oral, descriptive, test and other	• Lecture

Assignment conditions

The student is allowed to take the final written examination test. The 60 minute examination test contains 10 questions, each question - 1 point. 6 points (60%) out of 10 points are required to get the pass mark credit. Another condition for the credit are: to receive a positive grade for preparing a written paper and giving a presentation on a given topics.

The final mark consists of the average sum of all of the pass partial marks.

Recommended reading

1. Bridger R.S. Introduction to Ergonomics. Routledge Taylor and Francis Group. London and New York 2003.
2. Kroemer K.H.E., Grandjean E.: Fitting the task to the human. Taylor & Francis. London 1997.
3. Pheasant S.: Bodyspace. Anthropometry, ergonomics and the design of work. Ergonomics of the home. Taylor & Francis. London 2003.
4. Salvendy G. (Ed.), Handbook of fhuman factors and ergonomics. John Wiley and Sons Inc. 2012.
5. <https://osha.europa.eu/en>
6. <https://www.ciop.pl/en>

Further reading

Notes

Modified by dr Artur Wandycz (last modification: 20-05-2021 23:38)

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