COURSE DESCRIPTION CARD - SYLLABUS

Course name
Ergonomics in medicine

Course

Field of study
Biomedical Engineering
Area of study (specialization)
-
Level of study
First-cycle studies
Form of study
full-time

Year/Semester
3/5
Profile of study
general academic
Course offered in
Polish
Requirements
compulsory

Number of hours

Lecture
15
Laboratory classes
Other (e.g. online)
Tutorials
Projects/seminars
15

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
dr Małgorzata Wojsznis
email: Malgorzata.Wojsznis@put.poznan.pl
Faculty of Mechanical Engineering
ul. Jana Pawła II 24 (CMBiN), 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

The student should have knowledge of the operation and organization of enterprises, production or service plants. He/she should be aware of the risks in the workplace and be able to identify them. The student should be able to use regulations and normative acts.

Course objective

The aim of the course is to familiarize students with issues related to the ergonomic organization of workplaces, workload and loads from work environment, as well as ergonomic diagnosis of workplaces.

Course-related learning outcomes

Knowledge

The student knows the ergonomic requirements for machines and working environment.
The student knows the methods of ergonomic diagnosis and workplace design.
The student knows the scope of the given discipline and contemporary trends in this area.

Skills

The student is able to identify hazards and assesss occupational risks in the workplace.
The student is able to assess the influence of work and factors occurring in the work environment on the employee and to evaluate the usefulness of the methods used for the assessment.
The student knows how to use regulations and normative acts to optimize solutions improving ergonomics of the workplace.

Social competences

The student is aware of the role of the individual in solving the issues of ergonomic shaping of the working environment and makes efforts to convey, in a commonly understood way, his knowledge and skills in order to improve the working conditions.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge acquired as part of the lecture is verified on the basis of the final test during the last class in the semester. The test consists of 20 single-choice questions. In each question, 1 point is obtained for the correct answer. Passing threshold: 50%.

The knowledge and skills acquired during the project classes are verified by the presentation of the project developed by the students (in groups) and a discussion about the work.

Programme content

Lecture: Basics of ergonomics, purpose and tasks, historical background, development of ergonomics in medicine. Directions and areas of expertise in ergonomics. Man in the process of work - basic ergonomic layout, rooms and equipment of the entity performing the therapeutic activity. Ergonomic organisation of the workplace, health problems related to ergonomic organisation of the workplace. The workload of a man. Ergonomic diagnosis of workplaces. Loads from the work environment. Occupational risk assessment, occupational hazards of medical personnel. Specific requirements to be met by hospital premises and equipment.

Project: Ergonomic diagnosis of a selected workstation related to the therapeutic activity (hazard analysis, analysis and assessment of physical load, mental load, analysis and design of workspace, analysis and shaping of work environment, analysis and assessment of occupational risk). Development

of a plan to improve the working conditions of the selected workplace in accordance with ergonomic knowledge.

Teaching methods

Lecture: multimedia presentation illustrated with examples.

Project: presentation of a project developed by students (in groups), solving practical problems, searching for sources, teamwork, discussion.

Bibliography

Basic

Górska E., Diagnoza ergonomiczna stanowisk pracy, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1998 r.
Górska E., Ergonomia, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2015 r.
Tytyk E., Projektowanie ergonomiczne, PWN, Warszawa – Poznań, 2001 r.
Wojsznis M., Ergonomia – ocena stanowisk pracy, Wydawnictwo Politechniki Poznańskiej, Poznań 2018.

Additional

Marek K., Choroby zawodowe, Wydawnictwo Lekarskie PZWL , Warszawa, 2003.
Markiewicz L., Fizjologia i higiena pracy, Instytut Wyd. CRZZ, Warszawa, 1980.
Salvendy G., Carayon P., Human Factors and Ergonomics in Medicine, Inc. 2006

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	38	1,5
Student's own work (literature studies, preparation for tests, project preparation) [1]	12	0,5

[1] delete or add other activities as appropriate