



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Ergonomics

Course

Field of study

Year/Semester

Education in Technology and Informatics

1/2

Area of study (specialization)

Profile of study

-

general academic

Level of study

Course offered in

First-cycle studies

Polish

Form of study

Requirements

full-time

compulsory

Number of hours

Lecture

Laboratory classes

Other (e.g. online)

15

15

Tutorials

Projects/seminars

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

dr Małgorzata Wojsznis

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Faculty of Mechanical Engineering

ul. Jana Pawła II 24 (CMBiN), 60-965 Poznań

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 assess 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%.

Wiedza oraz umiejętności nabyte w ramach zajęć laboratoryjnych są weryfikowane na podstawie sprawozdań z wykonanych ćwiczeń oraz sprawdzianów z zagadnień kontrolnych.

Programme content

Lecture:

Basics of ergonomics, purpose and tasks, historical background. Directions and areas of expertise in ergonomics. The man in the work process - the basic ergonomic system. Ergonomic workplace organisation. The workload of a man. Ergonomic diagnosis of workplaces. Loads from the work environment. Occupational risk assessment. Supervision and control of working conditions in Poland.

Laboratoria:

Analiza zagrożeń na wybranym stanowisku pracy metodą Preliminary Hazard Analysis (PHA) i Job Safety Analysis (JSA). Ergonomiczne stanowisko komputerowe (optymalizacja stanowisk pracy). Badanie oświetlenia w pomieszczeniach. Wyznaczanie skuteczności akustycznej ochronników słuchu metodą audiometryczną. Ocena antropometryczna obiektu technicznego. Ocena komfortu cieplnego środowiska umiarkowanego na podstawie normy. Zastosowanie metody OWAS do analizy obciążenia statycznego na stanowisku pracy.

Teaching methods

Lecture: multimedia presentation illustrated with examples.

Laboratoria: przeprowadzanie ćwiczeń i wykonywanie sprawozdań z badań.

Bibliography



Basic

Górska E., Diagnostyka 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

Główczyńska – Woelke K., Ocena ryzyka zawodowego, 2009,

Rozporządzenie Ministra Pracy i Polityki Społecznej z dnia 6.06.2014 r. w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy (Dz. U. z 2014 r. poz. 817).

Marek K., Choroby zawodowe, Wydawnictwo Lekarskie PZWL , Warszawa, 2003.

Markiewicz L., Fizjologia i higiena pracy, Instytut Wyd. CRZZ, Warszawa, 1980.

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	38	1,5
Student's own work (literature studies, preparation for tests, wykonanie ćwiczeń) ¹	37	1,5

¹ delete or add other activities as appropriate