



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Ergonomics

### Course

Field of study

Management and Production Engineering

Area of study (specialization)

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Level of study

First-cycle studies

Form of study

full-time

Year/Semester

2/4

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:

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Faculty of Mechanical Engineering

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 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%.

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. 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.

Project:

Ergonomic diagnosis of a selected workplace (hazard analysis, analysis and assessment of physical load, mental load, analysis and design of workspace, analysis and shaping of the working environment, analysis and assessment of occupational risk). Development of a plan to improve the working conditions of the selected workplace according to 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., 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	50	2,0
Classes requiring direct contact with the teacher	38	1,5
Student's own work (literature studies, preparation for tests, project preparation) <sup>1</sup>	12	0,5

<sup>1</sup> delete or add other activities as appropriate