



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Human Work Ecology

Course

Field of study

Logistics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

Polish

Requirements

elective

Number of hours

Lecture

16

Tutorials

Laboratory classes

12

Projects/seminars

Other (e.g. online)

Number of credit points

5

Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

Prerequisites

The student defines and characterizes: basic concepts in the field of natural sciences, especially human



and environmental sciences (at secondary school level), basic technologies of production processes, selected concepts of organization and management sciences. The student can obtain information from various sources and is able to actively participate in shaping safe working conditions and reduce anthropopressure on the natural environment.

Course objective

Providing the student with knowledge related to ecological sciences and macroergonomics. Preparing the student to make decisions that lead to environmental effects and cause changes in working conditions. The acquired knowledge, skills and competences will allow the student to solve problems in the area of adapting work to the proper functioning of the human body and the requirements related to the formation of a good quality of life, depending on the natural environment.

Course-related learning outcomes

Knowledge

1. The student knows the basic relationships necessary to understand the non-technical (natural, physiological and organizational) conditions of engineering activity and the basic principles of work health and safety in logistics. [P6S_WK_08]

Skills

1. The student can recognize in engineering tasks systemic, non-technical, socio-technical, organizational and economic aspects. [P6S_UW_04]

2. The student can prepare measures necessary to work in an industrial environment and knows the principles of environmental safety associated with this work, including safety problems in logistics. [P6S_UW_05]

3. The student can choose the right tools and methods to solve the problem that fits the framework of logistics and supply chain management, as well as effectively use them, observing the principles of employee well-being and environmental protection. [P6S_UO_02]

4. The student can identify changes in requirements, standards, regulations, technical progress and reality of the labour market and on their basis determine the needs for improving knowledge. [P6S_UU_01]

Social competences

1. The student is aware of the need for critical assessment and perception of cause-and-effect relationships in achieving the set goals and ranking the significance of tasks. [P6S_KK_01]

2. The student is aware of the need to initiate activities related to the formulation and transfer of information and cooperation in society in the field of logistics. [P6S_KO_02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge acquired as part of lectures is verified on the basis course exam (tasks include choosing the correct answer out of several available ones, filling in a sentence with an appropriate concept or term or



providing a definition). Assessment issues constituting the basis of tasks are forwarded to students during the last lecture.

Skills acquired during laboratory classes are assessed on the basis of written tests before each exercise and on the basis of reports on their performance. The final grade is the average of the marks obtained from tests and reports, taking into account the coefficients related to their difficulty.

Passing threshold: 50% of points.

Programme content

Lectures

Basic concepts of ecology and human ecology; relationships between humans and the environment (natural, work); links between human ecology and macroergonomics; the essence and measurement of human psychophysical abilities; ambient conditions and the state and functioning of human body systems: - nervous system, - circulatory system, respiratory system, musculoskeletal system, sense organs; product life cycle and environmental effects; instruments of environmental policy: - ecological conditions, - legal instruments, - economic instruments, marketing instruments; management systems: - in labour protection, - in environment, - integrated, in enterprises; mutual applications of ergonomics and ecology to improve the work and life environment, the specificity of ecological problems in logistics work and companies

Laboratory classes

- The essence and methods of measuring human biological capabilities (morphological, physiological and psychomotor)
- The impact of environmental parameters on comfort and technical and economic results of human work

Teaching methods

1. Informative lecture with elements of conversation, illustrated with multimedia presentations
2. Laboratory classes - experiment method

Bibliography

Basic

1. Bezpieczeństwo pracy i ergonomia, vol.1 and 2, Koradecka D. (ed.), CIOP, Warszawa, 1999
2. Budniak E., Mateja B., Sławińska M., Specyfika kompleksowego ujęcia edukacji w zakresie ergonomii w bezpieczeństwie pracy, ZNPP Zeszyt 69 (2016), Wydawnictwo Politechniki Poznańskiej, Poznań, 2016
3. Ergonomia z elementami bezpieczeństwa i ochrony zdrowia w pracy, vol.1 to 4, Horst W.M. (ed.), Wydawnictwo Politechniki Poznańskiej, Poznań, 2011



4. Jabłoński J., Wybrane problemy zarządzania środowiskowego, Wydawnictwo Politechniki Poznańskiej, Poznań, 1999
5. Mateja B., Ekologia. Wybrane zagadnienia, Wydawnictwo Politechniki Poznańskiej, Poznań, 2011
6. Tytyk E., Projektowanie ergonomiczne, Wydawnictwo Naukowe PWN, Poznań, 2001
7. Wolański N., Ekologia człowieka, vol.1, Wydawnictwo Naukowe PWN, Warszawa 2006

Additional

1. Act of 27 April 2001, Environmental Protection Law, Journal of Laws, No. 62, item 627
2. Hałas. Dopuszczalne wartości hałasu w środowisku pracy PN-N - 01307: 1994
3. Światło i oświetlenie. Oświetlenie miejsc pracy PN-EN 12464-1: 2012
4. Dahlke G., Drzewiecka M., Stasiuk-Piekarska A.K., Pozasłuchowy wpływ elektrowni wiatrowych na człowieka [in:] Logistyka 5/2014, s. 290-300.
5. Stasiuk-Piekarska A., Drzewiecka M., Dahlke G., Influence of macroergonomic factors on production systems organizing in automotive industry [in] Vink P. [red.], Advances in Social and Organizational Factors, ISBN 978-1-4951-2102-9, str. 194-205.
6. Piaskowski M., Stasiuk A., Application of eco-balance in area of logistics - a case study, [in:] Golińska P., Fertsch M., Marx-Gómez J., Information Technologies in Environmental Engineering, Berlin 2011 (ISBN 978-3-642-19536-5).
7. Stasiuk-Piekarska A., Włodarczyk A., Innovation in the pursuit of sustainable manufacturing, Proceedings of the 36th International Business Information Management Association (IBIMA), ISBN: 978-0-9998551-5-7, 4-5 November 2020, Granada, Spain., s. 7363-7370

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for exam, project preparation) ¹	95	4,0

¹ delete or add other activities as appropriate