SYLLABUS

Name: Ergonomics and Industrial Hygiene Name in Polish: Ergonomia i Higiena Przemysłowa Name in English: Ergonomics and Industrial Hygiene

Information on course:

Course offered by department:	Faculty of Organisation and Management
Course for department:	Silesian University of Technology
Study level and form:	Bechelor's degree, Full-time
Term:	winter semester, academic year valid from 2019/2020, sem. 5
Coordinator of course edition:	Prof. dr hab. Grażyna Płaza, dr inż. Tomasz Wałek

Default type of course examination report:

Course pass	
Language:	
English	
Course homepage:	
https://platforma.polsl.pl/roz/	
ECTS	

Short description:

Description:

The aim of the course is to familiarize students with the principles of ergonomics in the workplace, ergonomic aspects of the human-machine system, work physiology. Teaching the classification of types of work and their physiological characteristics. Gaining the ability to determine the physiological cost of work in relation to the reaction of the circulatory, respiratory and other systems to workload. Gaining measurement skills factors of the material working environment and comparing their size to the applicable standards. Adherence to safe working practices company, in accordance with health and safety rules.

Lecture 1. Ergonomics as a science of work; the basic principles of ergonomics Ergonomic aspects of the functioning of the human-machine system. 2. Models of the course and causes of the accident. 3. Work physiology. 4. Types of work and their physiological characteristics. 5. Physiological cost of work in relation to the reaction of the circulatory, respiratory and other systems to workload. 6. Ability to work - determinants, indicators of ability to work. 7. Factors of the material working environment - principles of measurement, impact on employee health. 8. Rules of safety work - the basics of occupational health and safety. Laboratory: 1. Principles of ergonomic shaping of machines, devices and workstations - spatial structure of the workplace. 2. Ergonomic diagnosis of the selected workplace 3. Workstation with a computer - ergonomic requirements 4. Analysis of hazards in selected workplaces The number of hours of classes with the direct participation of academic teachers or other persons conducting classes and students: Lecture: 30h; Laboratory: 30h Individual student work:

Lecture: learning the test materials – 30 h

Laboratory: preparation of project – 30 h

Bibliography:

Płaza G. (2017) Zarządzanie bezpieczeństwem produkcji żywności w kierunku poprawy jakości produktu. W: Systemy Wspomagania w Inżynierii Produkcji. Sposoby i środki doskonalenia produktów i usług na wybranych przykładach. vol. 6, nr 8, 27-35. 11.

Płaza G., Ulfig K. (2017) Health risk to wastewater treatment plant and agricultural workers from pathogenic fungi in sewage sludge applied to land. Conference Proceedins vol. 7- Ecology, Economics, Education and Legislation; issue 52 – Ecology and Environmental Protection. 17th International Multidisciplinary Scientific Geoconference SGEM 2017, 29-June-5 July 2017, Albena, Bulgaria.

Płaza G., Ulfig K. (2018) Safety of commercially viable bio-based products: labelling and standardization. Zeszyty Naukowe Politechniki Śląskiej; seria: Organizacja i Zarządzanie z. 119, 227-241

Płaza G., V. Achal, D. Kumari (2018) Microbiological risk assessment and bioprocess engineering. Proceedings of XV International Conference "Multidisciplinary Aspects of Production Engineering" MAPE, vol. 1, no. 1, pp. 233-239.

Płaza G., Kwiecień M. (2019) Zintegrowany wskaźnik BHP – narzędzie do oceny skuteczności zarządzania bezpieczeństwem pracy. W: Wybrane elementy zarządzania procesami produkcyjnymi. Brodny J., Wieczorek A. (red.) Wydaw. Politechniki Śląskiej, Gliwice, 65-88. zukasiewicz O., Płaza G. (2023) Zastosowanie narzędzi informatycznych w zarządzaniu BHP na przykładzie przedsiębiorstwa branży kosmetycznej. Zarządzanie i Jakość, vol. 5, nr 2, s.154-168.

Learning outcomes:

Knowledge: (knows and understands)

K1A_W17 principles, concepts and methods of logistics, quality management, environmental protection and management, ergonomics and occupational safety

Skills: (is able to)

K1A_U08 make a critical analysis of how existing technical solutions related to ergonomics and industrial hygiene work and evaluate the solutions K1A_U10 take into account aspects of logistics, quality management, environmental protection and management, and ergonomics and occupational safety in the industrial environment and the environment of production systems K1A U17 communicate with the public using specialized terminology related to ergonomics and industrial hygiene

Social competence: (is ready for)

K1A K01 critical evaluation of the acquired knowledge and received content related to ergonomics and industrial hygiene

Assessment methods and assessment criteria:

Lecture

Pass - written colloquium (test)

Passing criterion: minimum 50% of correct answers

Laboratory

Submitting the project regarding ergonomic diagnosis selected workplace, attendance at classes

Practical placement:

Not applicable