STUDY MODULE DESCRIPTION FORM

Name of the module/subject	Code
Protection of Intellectual Property, Safety and Work Ergonomics	**1010701121011121636**

Field of study	Profile of study (general academic, practical)	Year /Semester
Chemical and Process Engineering	**(general academic)**	**1 / 2**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**obligatory**

Cycle of study:	Form of study (full-time,part-time)
First-cycle studies	**full-time**

No. of hours	No. of credits
Lecture: **1** Classes: **-** Laboratory: **-** Project/seminars: **-**	**1**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
(brak)	**(brak)**

Education areas and fields of science and art	ECTS distribution (number and %)
technical sciences	**1 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge from secondary school.
2	**Skills**	Analysis of interdisciplinary problems.
3	**Social competencies**	Independent thinking and working in a group.

Assumptions and objectives of the course:

-Acquainting the students with basic health and safety regulations and ergonomics in modern industrial companies, as well as in non-professional life. Teaching some practical skills how to solve problems connected with development of working conditions inter alia, assessment and limitation of an excessive occupational risk, ergonomic diagnosing and designing the solutions which escalate safety and ergonomic quality of working conditions. Disclosing system dependencies between technology, human welfare, ecology, economy, sociology. Humanization of technology as the cause of establishing constructive and organizational solutions. Acquainting the students with current and fundamental legal regulations of copyright as well as industrial property and exploratory procedures, along with heuristic techniques which endorse innovation.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. He has the general knowledge necessary to understand the social, economic, legal and other non-technical determinants of engineering activities. [K_W16]
2. He has knowledge about the risks associated with the implementation of chemical processes and the principles of risk assessment, knows international conventions and EU directives in the field of technical safety and knows the rules of the European Union regulation concerning the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH).[K_W18]
3. He has elementary knowledge of the protection of intellectual property and patent law. [K_W19]

Skills:

1. He can, in formulating and solving engineering problems, see the System and non-technical aspects. [K_U09]
2. He can to assess the risks of unit operations in chemical and process engineering. [K_U11]
3. Used regulations and complies with health and safety, work-related. [K_U12]

Social competencies:

1.He is aware of the importance and understanding of the non-technical aspects and effects of engineering, including its impact on the environment and the liability of decision making. [K_K02]

Assessment methods of study outcomes

-The final test.

Course description

-Genesis of problematic aspects in the area of health and safety and ergonomics. Tasks and objectives of health and safety as well as ergonomic engineering. Legal foundations for activities in the realm of health and safety. Human-technical object system as a representation of a workplace. Threats identification in workplace related to the chemical industry. Methods of occupational risk assessment in a workplace. Technical and organizational ways of limiting an excessive occupational risk. Assessment of physiological workload. Assessment of mental workload. Anthropometrical data in machines design and workspace. Instrument measurements and assessment of material parameters in working environment. Examples of technical and organizational solutions which boost safety and ergonomic quality of machines as well as working conditions.

The concept of intellectual property. Basic regulations concerning copyright. The notion of industrial property and its forms of legal protection. Plagiarism and piracy, legal consequences. Patent law, protection law, registration law. Types of creative work and forms of their protection, invention, utility model, trade mark, geographical indications, topography of integrated circuits, innovative proposal. Procedures in Patent Office of the Republic of Poland. European Patent Office. Marketing strategies of industrial property. Heuristic methods of improving exploratory skills.

Basic bibliography:

1. Tytyk E., Butlewski M., Ergonomia w technice (Ergonomics in technology); Wydawnictwo Politechniki Poznańskiej, Poznań, 2011

2. Koradecka D. (red.), Bezpieczeństwo pracy i ergonomia (2 tomy) (Occupational safety and ergonomics); Wydawnictwo Centralnego Instytutu Ochrony Pracy, Warszawa, 1999

3. Rączkowski B,. BHP w praktyce. Wydanie XII. Wyd. ODDK Gdańsk, 2009

4. Barta J., Markiewicz R., Prawo autorskie i prawa pokrewne (Copyright and related rights). Wyd. Zakamycze, 2004

5. Szewc A., Jyż G., Prawo własności przemysłowej (Industrial property rights). Wyd. C.H. Beck, Warszawa, 2004

Additional bibliography:

1. Nowak E., Atlas antropometryczny populacji polskiej (Anthropometric atlas of Polish population); Wydawnictwo Instytutu Wzornictwa Przemysłowego, Warszawa, 2000

2. Tytyk E., Projektowanie ergonomiczne (Ergonomic design); Wydawnictwo Naukowe PWN, Warszawa, 2001

3. Wejman M., Higiena pracy (Occupational Health) ; Wydawnictwo Politechniki Poznańskiej, Poznań 2012

4. Własność przemysłowa w działalności gospodarczej (Industrial property in business activity). Przewodnik dla małych i średnich przedsiębiorstw (red. Marianna Zaręba). Wyd. Urząd Patentowy RP, Warszawa, 2003

5. Wzory przemysłowe w działalności małych i średnich przedsiębiorstw (Industrial designs of small and medium-sized enterprises) (opracowanie: Dobosz E., Gędłek M., Podgórska A.), Wyd. Urząd Patentowy RP, Warszawa, 2005

Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	15
2. Preparation for test	5

Student's workload

Source of workload	hours	ECTS
Total workload	20	1
Contact hours	15	1
Practical activities	0	0