

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject (-)		Code 1010101151011124422
Field of study Civil Engineering First-cycle Studies	Profile of study (general academic, practical) general academic	Year /Semester 3 / 5
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 15 Classes: - Laboratory: - Project/seminars: -		No. of credits 1
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) university-wide
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 1 100% 1 100%
Responsible for subject / lecturer: prof. dr hab. inż. Edwin Tytyk email: edwin.tytyk@put.poznan.pl tel. 61-665-33-77; 61-665-33-74 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań		
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. Has the basic knowledge that is necessary to understand the determinants of non-technical engineering activity in a household and an industry; is familiar with the basic principles of occupational health and safety in the industry - [K_W06]		
2. Has an elementary knowledge of the intellectual property protection and patent law - [K_W14]		
Skills:		
1. In formulating and solving tasks which involve the design of energy devices, a student can detect their non-technical aspects, including environmental, economic and legal - [K_U20]		
2. Is able to apply the principles of health and safety at work - [K_U16]		
Social competencies:		
1. Has an awareness of and understands the non-technical aspects of consequences regarding engineering activity, including its impact on the environment and the related responsibility for the decisions - [K_K02]		
Assessment methods of study outcomes		

- The final test- multiple-choice test		
Course description		
<p>- 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 electrotechnology. 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.</p> <p>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.</p>		
Basic bibliography:		
<ol style="list-style-type: none"> 1. Taczanowska T., Jaśkowski P., Ergonomia w budownictwie. Wydawnictwo Uczelniane Politechniki Lubelskiej, Lublin, 1998 2. Koradecka D. (red.), Bezpieczeństwo pracy i ergonomia (2 tomy); Wydawnictwo Centralnego Instytutu Ochrony Pracy, Warszawa, 1999 3. Tytyk E., Butlewski M., Ergonomia w technice; Wydawnictwo Politechniki Poznańskiej, Poznań, 2011 4. Tytyk E., Projektowanie ergonomiczne; Wydawnictwo Naukowe PWN, Warszawa, 2001 5. Horst W., Ryzyko zawodowe na stanowisku pracy, Część I. Wyd. Politechniki Poznańskiej, Poznań, 2004 6. Rączkowski B. BHP w praktyce. Wydanie XIII. Wyd. ODDK Gdańsk, 2011 7. Barta J., Markiewicz R., Prawo autorskie i prawa pokrewne. Wyd. Zakamycze, 2004 8. Szewc A., Jyż G., Prawo własności przemysłowej. Wyd. C.H. Beck, Warszawa, 2004 9. Branowski B., Metody twórczego rozwiązywania zadań projektowych. Wyd. NOT, Poznań, 1999 		
Additional bibliography:		
<ol style="list-style-type: none"> 1. Koradecka D. (red.), Nauka o pracy ? bezpieczeństwo, higiena, ergonomia. Pakiet edukacyjny dla uczelni wyższych, (8 tomów); Wydawnictwo Centralnego Instytutu Ochrony Pracy, Warszawa, 2000 2. Górka E., Diagnostyka ergonomiczna stanowisk pracy. Oficyna Wydawnicza Politechniki Warszawskiej, 1998 3. Nowak E., Atlas antropometryczny populacji polskiej; Wydawnictwo Instytutu Wzornictwa Przemysłowego, Warszawa, 2000 4. Własność przemysłowa w działalności gospodarczej. Przewodnik dla małych i średnich przedsiębiorstw (red. Marianna Zaręba). Wyd. Urząd Patentowy RP, Warszawa, 2003 5. Ustawa z dn. 04 lutego 1994 r. o prawie autorskim i prawach pokrewnych. (Dz.U. nr 24 poz. 83, tekst jednolity z 01.08.2000 r.) 6. Ustawa z dn. 30 czerwca 2000 r. Prawo własności przemysłowej. (Dz.U. nr 119 poz. 1117, tekst jednolity z 13.06.2003 r.) 7. Ustawa z dn. 16 kwietnia 1993 r. o zwalczaniu nieuczciwej konkurencji. (Dz.U. nr 153 poz. 1503, tekst jednolity z 26.06.2003 r.) 8. Kauffman A., Fustier M., Drevet A., Inwentyka. Metody poszukiwania twórczych rozwiązań. WNT, Warszawa, 1975 		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in lectures	15	
2. Preparing to test	10	
3. Participation in test	2	
Student's workload		
Source of workload	hours	ECTS
Total workload	27	1
Contact hours	17	1
Practical activities	0	0