STUDY MODULE DESCRIPTION FORM

Name of the module/subject **The safety in technique and the organization of work**		Code **1011105211011126470**
Field of study **Safety Engineering - Part-time studies - Second-**	Profile of study (general academic, practical) **(brak)**	Year /Semester **1 / 1**
Elective path/specialty **Work Safety Management**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time) **part-time**	
No. of hours Lecture: **8** Classes: **10** Laboratory: **-** Project/seminars: **-**		No. of credits **3**
Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**	
Education areas and fields of science and art		ECTS distribution (number and %)

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
Wydział Inżynierii Zarządzania
ul. Strzelecka 11 60-965 Poznań

Responsible for subject / lecturer:

mgr inż. Aleksandra Dewicka
email: aleksandra.dewicka@put.poznan.pl
tel. 61-665-33-74
Wydział Inżynierii Zarządzania
ul. Strzelecka 11 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of ergonomics
2	**Skills**	Capability of technical thinking
3	**Social competencies**	Group work

Assumptions and objectives of the course:

The goal of the course is to familiarize students with the problems involved in workplace safety in industrial settings and with the methods of forming the physical work environment, as well as the rules of diagnosis and design of safe technical facilities and a safe work organization.

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

Knowledge:

1. has extensive knowledge of recognizing the belonging of a certain problem to a given discipline - [K2A_W01]
2. knows an in-depth characterization of interdependencies in a given discipline - [K2A_W02]
3. knows the meaning of most dependencies existing in a given discipline for Safety Engineering - [K2A_W03]
4. knows detailed dependencies applicable to a given discipline - [K2A_W10]
5. has basic knowledge of equipment and machines life cycle - [K2A_W15]

Skills:

1. can acquire, integrate, interpret data from literature, database or other properly matched sources - [K2A_U1]
2. can create, both in English and Polish language, well- documented report of problems within Safety Engineering - [K2A_U3]
3. can prepare and give oral presentation relating to detailed issues within the realm of Safety Engineering in Polish and other foreign language - [K2A_U4]
4. can, while formulating and solving engineering tasks, discern their systemic and non-technical aspects and also socio-technical,organizational and economic approach - [K2A_U10]
5. has got the preparation that is indispensable to be able to work in an industrial environment and also knows Safety rules connected with a given work along with the ability to impose their use in practice - [K2A_U13]
6. can, according to a given specification, design and operate simple equipment, object, system or a process, typical for Safety Engineering - [K2A_U18]

Social competencies:

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1. Student is fully aware of the responsibility that he has taken for his own work and expresses readiness to comply with the rules of team work as well as responsibility for mutually realized and completed tasks - [K2A_K3]
2. can determine some causal relationships in the process of targets implementation and rank pertinence of alternative or competitive tasks - [K2A_K4]
3. is conscious of his social role as a student of technical university, especially comprehends the need to formulate a pass the information to the society - [K2A_K7]

Assessment methods of study outcomes

Initial grade:

a)for seminars: based on written quizzes,

b)for lectures: based on written or oral answers to questions on the material covered in the current and previous lectures,

Final grade:

a)for seminars: based on an average of the attained quiz grades and passing an integrative test,

b)for lectures: based on passing a written test on the subjects presented during the lectures.

Course description

Sources and types of hazards in technology. Identification of hazards as: mechanical, electrical, thermal, vibroacoustic, optical, chemical, and biological. The design of safety measures against the adverse effects of the physical work environment. Technological methods of reducing the amount of noise, vibration, dust, and radiation. Hazards and safety measures in typical manufacturing processes and common technological devices. Safety and work organization. The selection and rules of usage of personal protection. Regulations concerning safety at work.

Basic bibliography:

1. Bezpieczeństwo w technice i organizacji pracy (Safety in technology and work organization), Marcin Butlewski, Edwin Tytyk, Politechnika Poznańska, Poznań, 2011
2. Charakterystyki zagrożeń stwarzanych przez maszyny produkcyjne (The characterization of threats caused by production machines). Praca zbiorowa, Wyd. CIOP, Warszawa, 1998
3. Horst W., Ryzyko zawodowe na stanowisku pracy (Occupational risk in the workplace). Część 1. Ergonomiczne czynniki ryzyka (ergonomic risk factors). Wyd. Politechniki Poznańskiej, Poznań, 2004

Additional bibliography:

1. Gierasimiuk J., Bezpieczeństwo pracy i ergonomia. Maszyny ? stanowiska pracy (Work Safety and ergonomics. Machines at workplace). Część 1 (Part 1): Podstawowe kryteria, wymagania i zasady oceny (Basic criteria, requirements and assessment rules). Wyd. Centralny Instytut Ochrony Pracy (CIOP), Warszawa, 1984
2. Koradecka D. (red.), Bezpieczeństwo pracy i ergonomia (Work Safety and ergonomics). Wyd. CIOP, Warszawa, 1999
3. Koradecka D. (red.), Zagrożenia czynnikami niebezpiecznymi i szkodliwymi w środowisku pracy (Threats caused by hazardous and harmful factors in working environment). Tom 6. Pakietu edukacyjnego dla uczelni wyższych pt. Nauka o pracy ? bezpieczeństwo, higiena, ergonomia. Wyd. CIOP, Warszawa, 2000

Result of average student's workload

Activity	Time (working hours)
1. lecture	30
2. practicals	15
3. individual work	15

Student's workload

Source of workload	hours	ECTS
Total workload	90	3
Contact hours	60	2
Practical activities	15	1

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