Zachodniopomorski Uniwersytet Technologiczny w Szczecinie

Faculty of Chemical Technology and Engineering

Field of study	Chemical Engineering		
Mode of study	stationary	*Level*	first cycle
Graduate's qualification	inżynier		
Area(s) of study	nauki techniczne		
Educational profile	general academic		
Module			
Course unit	**Technology, Law, and the Working Environment**		
Code	ChEn_1A_S_B07		
Field of specialisation			
Administering faculty	Institute of Inorganic Chemical Technology and Environmental Engineering		
ECTS	2,0	*ECTS (forms)*	2,0
Form of course credit	credits	*Language*	english
Electives		*Elective group*	

Form of instruction	*Code*	*Semester*	*Hours*	*ECTS*	*Weight*	*Credit*
lecture	W	2	30	2,0	1,00	credits

Leading teacher	Tryba Beata (Beata.Tryba@zut.edu.pl)
Other teachers	Karakulski Krzysztof (Krzysztof.Karakulski@zut.edu.pl), Tryba Beata (Beata.Tryba@zut.edu.pl), Wymiana międzynarodowa

Prerequisites

W-1	Basic knowledge about regulations and existing law in the European Union and all over the world related to the environment, chemical technology and safety in the working place

Module/course unit objectives

C-1	The aim of this course is focused on the general orientation about existed regulations in a working environment related to the technology, safety and man; the student will be aware responsibility for the work and some legal consequences in the case of incompatibility of the work in the industrial systems
C-2	Student will be aware of the possible occurence of the risk at the working environment, especially in the industry
C-3	Student will get knowledge about risk assesments during working with the toxic or dangerous substances and will be familiar with the good laboratory practise and the guidance for the safety work

Course content divided into various forms of instruction		*Number of hours*
T-W-1	REACH regulation	2
T-W-2	Certification of products for safety	2
T-W-3	WHO Guidelines on Protecting Workers from Potential Risks of Manufactured Nanomaterials	2
T-W-4	Risk assesment of nanomaterials	4
T-W-5	FDA regulation	2
T-W-6	The toxic substances control act	2
T-W-7	The Occupational Safety and Health Act	2
T-W-8	Employment law in a working environment	2
T-W-9	Health and safety at work	2
T-W-10	European Union directives	2
T-W-11	Risk and mechanisms of crashes in the industrial installations	4
T-W-12	Reliability in the system of man-technics-environment	4

Student workload - forms of activity		*Number of hours*
A-W-1	Participation in lectures	30
A-W-2	Individual literature studies	15
A-W-3	Preparation for exam	15

Teaching methods / tools

M-1	Lecture
M-2	Discussion

Evaluation methods (F - progressive, P - final)

S-1	P	Written exam (in the form of test)

Designed learning outcomes	Reference to the learning outcomes designed for the fields of study	Reference to the learning outcomes defined for the particular areas of education	Reference to learning outcomes leading to the degree of "inżynier"	Course objectives	Course content	Teaching methods	Evaluation methods
Knowledge							
ChEn_1A_B07_W01 has knowledge about law and regulations at the working environment and other regulations such as REACH, directives of EU, OSH and FDA acts	ChEn_1A_W16	P6S_WG_TA11	P6S_WG_IA11	C-1	T-W-1 T-W-7 T-W-2 T-W-8 T-W-3 T-W-9 T-W-5 T-W-10	M-1	S-1
Skills							
ChEn_1A_B07_U01 knows and understand regulations and OHS rules applicable in industry and can apply it; can predict and asses the danger in the working place	ChEn_1A_U05 ChEn_1A_U11 ChEn_1A_U12 ChEn_1A_U13	P6S_UU P6S_UW_TA12	P6S_UW_IA12	C-3	T-W-1 T-W-10 T-W-4 T-W-11 T-W-9 T-W-12	M-1	S-1
Other social / personal competences							
ChEn_1A_B07_K01 Is aware of responsibility for the taken decisions during work and their effect on the surrounded environment	ChEn_1A_K02	P6S_KO		C-2	T-W-3 T-W-11 T-W-6 T-W-12 T-W-9	M-1	S-1

Required reading

1. Nicholas A. Ashford, Charles C. Caldart, Technology, Law, and the Working Environment, Island Press, Island, 1996

2. Steven Vaughan, EU Chemicals Regulation, New Governance, Hybridity and REACH, Faculty of Laws, University College London, UK, 2015

3. J. C. Miller, R. Serrato, J. M. Represas-Cardenas, G. Kundahl, The Handbook of Nanotechnology. Business, Policy, and Intellectual Property Law, John Wiley & Sons, Inc., 2005

Supplementary reading

1. Richard M. Cyert and David C. Mowery, Technology and Employment, National Academy Press, Washington, D.C., 1987