

Faculty of Civil and Environmental Engineering						
Study programme:	Agricultural and food engineering		Degree level: full- Bachelor's degree time/part-time programme:			
Specialization	-		Diploma path: -			
Module name:	Occupational health, safety and ergonomics					
Module type:	obligatory	Semester:	I	ECTS	1	Module ID: RSN 1107
No. of hrs in semester:	L - 15 C - LC- P- SW- S-					
Prerequisites:	<i>Complete with prerequisites or "-"</i>		-			
Aims and objectives:	<i>Description of the assumed knowledge, skills and social competence the student should have acquired after the completion of the module:</i>		To get the student acquainted with the duties and rights of the employee and the employer; hazards in the work environment; methods of estimation and risk assessment; economic and social aspects of ergonomics. Teaching shaping safe and hygienic working conditions. Understanding the problems of harmonizing man with work and rational protection of his life and health against possible threats and dangers. To familiarize the student with the legal bases regarding the conditions under which work should take place.			
Forms of teaching activities:	<i>lecture, classes, laboratory classes, project, specialization workshop, seminar</i>		Assessment:		Evaluation must be relevant to the intended learning outcomes	
			lecture – written exam			
Module content:	<i>Complete with the module content: (max. 1000 characters)</i>		Supervision and control of working conditions. Safety and health in the work environment. The specificity of work in agriculture and the food industry due to environmental and traumatic hazards. Recognition of the safety status - elements and characteristics of the work environment, risk assessment. Identification of dangerous, harmful and burdensome work environment factors. Organization of the workplace. Methods of reduction and elimination of hazards at the workplace - procedural, technical measures (also individual protection measures) and conservative measures. Concepts of ergonomics and ecology. Types of work and effects of workload. Conditions of human system functioning - technical object - environment. Threats in agriculture and the food industry. Ergonomic design. Selected parameters of working conditions and its effectiveness. Safety of machinery and technical equipment in agriculture and food industry.			
Teaching methods:	<i>Problem and information lecture</i>					
Learning outcome	<i>Specify min. 4, max. 8 learning outcomes in the following order: knowledge – skills – competence. Each learning outcome must be verifiable</i>					<i>Reference to the programme learning outcomes</i>
LO1	The student lists and describes the basic principles of occupational health and safety as well as environmental and traumatic risks in agriculture and the food industry.					RS_W04, RS_W10, RS_W13
LO2	The student knows the basic laws and standards governing the requirements concerning the conditions under which the work should be done in agriculture and food industry.					RS_W14
LO3	Student identifies and describes dangerous, harmful and onerous factors in the work environment					RS_UW13, RS_U15

LO4	Student can use procedural measures, technical (including personal protection equipment) and conservative.	RS_U15	
LO5	Student applies health and safety rules.	RS_K01; RS_K05	
No. of learning outcome	Methods of assessing the learning outcome	Type of teaching activities (if more than one) during which the outcome is assessed	
LO1	written exam	L	
LO2	written exam	L	
LO3	written exam	L	
LO4	written exam	L	
LO5	written exam	L	
Student workload (in hours)	lecture attendance	15x1h	15
	participation in student-teacher sessions related to the classes/seminar/project	2x1h	2
	preparation for and participation in exams/tests	10h	10
		TOTAL:	27
Quantitative indicators	Student workload – activities that require direct teacher participation:		ECTS
		15+2h=17h	0,5
	Student workload – practical activities:	10h+2h=12h	0,5
Basic references:	1. Rączkowski B.: <i>BHP w praktyce</i> , Wydawnictwo ODDK, Gdańsk, 2016. 2. Konsala R. (pod red): <i>Inżynieria produkcji : kompendium wiedzy</i> , Polskie Wydawnictwo Ekonomiczne, Warszawa, 2017. 3. Markowski A. S.: <i>Bezpieczeństwo procesów przemysłowych</i> , Wydaw. Politechniki Łódzkiej, Łódź, 2017. 4. Kowal E.: <i>Ekonomiczno – społeczne aspekty ergonomii</i> . WNPWN, Warszawa 2002. 5. <i>Podręczniki i broszury Państwowej Inspekcji Pracy: BHP w rolnictwie</i> , Warszawa, 2016-2017.		
Supplementary references:	1. Dudarski G. (sci ed): <i>Modern trends in ergonomics and occupational safety : selected problems : scientific monograph</i> , Oficyna Wydawnicza Uniwersytetu Zielonogórskiego, Zielona Góra, 2013. 2. Kazimierczak A.: <i>Poradnik dla służb bhp : zadania, uprawnienia, odpowiedzialność : z suplementem elektronicznym</i> , Wydawnictwo ODDK, Gdańsk, 2017. 3. Wojtaszek H., Królak P.: <i>BHP i higiena pracy : aspekty praktyczno-teoretyczne</i> , Wydaw. Naukowe Sophia, Katowice, 2016.		
Unit:	Department of Technology and Systems Environmental Engineering	Author of the programme:	Ewa Szatyłowicz, Msc Eng
Date of issuing the programme:	2018-09-26		Anna Siemieniuk, PhD Eng

L - lecture C - classes
SW - specialization workshop

LC - laboratory classes P-project
S - seminar