Lodz University of Technology

Study programme

Faculty:	Faculty of Process and Environmental Engineering
Major:	Occupational Safety Engineering
Level of study:	first-cycle programme (inżynier)
Form of study:	full-time studies
Academic year:	2026/27

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Basic information

Name of the field of study:	Occupational Safety Engineering
Level of study:	first-cycle programme (inżynier)
Study profile:	general academic
Form of studies:	full-time studies
Duration of studies (number of semesters):	8
The number of ECTS points required to complete studies:	240
Total number of hours of classes:	3070
The number of ECTS points a student obtains as part of classes conducted with the direct participation of academic teachers or other persons conducting classes:	123
Professional title awarded to graduates:	inżynier
ISCED code:	0788
Language of study:	polish

Assigning the course to the disciplines to which the learning outcomes relate

Discipline	Percentage share
Chemical engineering	56%
Management science and quality	18%
Material Engineering	18%
Automation, electronics and electrical engineering	8%

Learning outcomes (in relation to the PQF)

No.	Learning outcome code	Learning Outcome Content	Reference to the universal characteristics of the first level of PRK	Reference to the second-level characteristics of the PRK, taking into account the second-level characteristics enabling the acquisition of engineering competences
1	**1IBP1**	Has knowledge of basic and applied sciences necessary to solve problems in the field of occupational safety engineering.	P6U_W	P6S_WG
2	**1IBP2**	Has detailed knowledge of labor law, hazard factors, safeguards and protective measures, ergonomics, occupational accidents and diseases, industrial accidents, industrial process safety, technical and medical rescue, necessary to ensure and improve safe and hygienic workplace conditions.	P6U_W	P6S_WG, P6S_WK
3	**1IBP3**	Has knowledge in the field of occupational health and safety management, quality, environment, production, and occupational and process risk management.	P6U_W	P6S_WG
4	**1IBP4**	Knows and understands the principles of entrepreneurship, life cycle analysis of technical systems and facilities, standardization, sustainable development, and intellectual property protection in the context of globalization and economic, ethical, and social aspects.	P6U_W	P6S_WG, P6S_WK
5	**1IBP5**	Is able to obtain and analyze information from various sources, plan and conduct experiments, analyze technical and organizational solutions, interpret the results obtained, make conclusions, participate in discussions, debates, and prepare documentation related to occupational health and safety requirements in the company.	P6U_U	P6S_UW, P6S_UK
6	**1IBP6**	Is able to develop systems and solve complex and unusual problems in the field of occupational safety engineering using appropriate methods, techniques, tools, and materials.	P6U_U	P6S_UW
7	**1IBP7**	Is able to use a foreign language at B2 level.	P6U_U	P6S_UK
8	**1IBP8**	Is able to take into account systemic and non-technical aspects (moral, economic, environmental, and legal) in the performance of occupational safety engineering tasks, as well as plan and implement activities individually and as part of a team, and possesses the ability to acquire new knowledge.	P6U_U	P6S_UO, P6S_UU
9	**1IBP9**	Understands the importance of knowledge in solving cognitive and practical problems in shaping safe and hygienic working conditions and is able to communicate with people with varying levels of technical knowledge.	P6U_K	P6S_KK
10	**1IBP10**	Is ready to take responsibility for the engineering tasks performed, to comply with the principles of professional ethics, to initiate actions in the public interest, for occupational safety and the social environment, and to act in an entrepreneurial manner.	P6U_K	P6S_KO, P6S_KR

Matrix of course modules in relation to learning outcomes and curriculum content

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
1	Mathematics I	Elements of mathematical logic and set theory. Fundamentals of functions, including composite and inverse functions, and elementary functions: exponential, logarithmic, trigonometric, and inverse trigonometric functions. Numerical sequences, limits, and continuity of functions. Differential and integral calculus of functions of one variable and their applications. Fundamentals of matrix algebra and methods for solving systems of linear equations.	x					x				
2	Physics	Physical quantities, units, and measurements. Kinematics and dynamics. Harmonic and wave motion. Thermodynamics. Electricity and magnetism. Optics.	x					x				
3	Introduction to Occupational Health and Safety	Introduction to occupational safety and health (OSH). Concepts and sources of OSH. Principles and legal regulations of OSH. Hazard factors in the working environment. State institutions and internal organisational units of an enterprise within the OSH system. Accidents, failures and occupational diseases. Tasks of OSH services in an enterprise. Safety measures.		x			x	x		x		
4	Technical Mechanics	Principles of mechanics and equilibrium of material bodies. Freeing the body from constraints, and definitions and theorems related to these issues. Fundamental problems concerning the strength of materials.	x				x					
5	Engineering Graphics and Construction Documentation	Principles applied in technical drawing concerning the creation of views and sections, dimensioning, tolerances, surface roughness indication, and preparation of assembly and detail drawings. Reading, interpreting, and creating construction documentation in accordance with applicable technical drawing standards.	x				x					
6	Information Technology	Modern IT infrastructures, electronic communication models and tools, use of office software and group work tools.					x	x				
7	Mathematics II	Differential calculus of functions of two real variables. Implicit functions. Complex numbers. Basic concepts and theorems of ordinary differential equations. General and particular solutions of differential equations. Differential equations with separable variables and first- and second-order linear differential equations. Applications of ordinary differential equations.	x					x				
8	Fundamentals of General Chemistry	The structure of matter and the classification of chemical elements. Fundamental concepts and laws of chemistry. Types of chemical bonding. Mechanisms underlying the formation of chemical compounds. Foundations of inorganic, organic, and physical chemistry.	x				x					
9	Fundamentals of Electronics and Electrical Engineering	Basic elements of electrical circuits, direct current and sinusoidal alternating current circuits, basic laws of electrical engineering. Phenomena occurring in three-phase systems, issues related to the generation and distribution of electrical energy. Electrical power installations and equipment. Elements of electronics.	x				x					

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
10	Labour Law and Psychology	Legal protection of labour. Duties of the employer and the employee with regard to occupational health and safety. Liability for OSH under the Labour Code, the Criminal Code, and other legal acts. Psychosocial aspects of work. Psychological factors affecting occupational safety. Mobbing, discrimination, and harassment in the workplace. Work–life balance, mental health, and employee well-being. Protection of the work of women and young workers.		x	x	x				x		
11	Cybersecurity	Local and access networks, the Internet, and Internet services. Malicious software (malware), phishing, online extortion, identity threats, and breaches of email and online banking communications. Methods of defense against threats and protection of personal data. The role of artificial intelligence elements.					x	x				
12	CAD Tools	Methods of digital geometric modeling and the preparation of technical documentation and 2D/3D models in accordance with modern engineering standards. Parametric design and the differences between 2D and 3D documentation. Automatic generation of projections, cross-sections, and material lists.						x		x		
13	English B2 module I	First part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
14	English B2+ module I	First part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
15	English C1 module I	First part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
16	German B2 module I	First part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.										
17	Fundamentals of Industrial Automation	Open and closed control systems. PID controller - properties and tuning methods. Sensors and actuators used in industrial automation. PLC controller - structure and properties.	x				x					
18	Chemical Engineering in the Petrochemical Industry	Technological processes used in the petrochemical industry. Mass, heat, and momentum transfer in the context of chemical engineering process design and optimization.	x	x			x			x		
19	Chemical Engineering in Environmental Protection	Processes that reduce air, water, and soil pollution generated by industry and methods for their treatment. Issues of mass, heat, and momentum transport form the basis for describing and modeling environmental processes.										
20	Machine Elements	Typical machine elements and principles of mechanical device design. Construction materials and their strength properties. Design and operation of mechanical components, machine part connections, as well as principles of mechanical device design in relation to technology and materials science.		x			x					

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
21	Electrical and Electromagnetic Hazard Factors	Hazards associated with the operation of electrical installations and equipment, lightning strikes, static electricity, electromagnetic fields. Ways to reduce these hazards. Optical radiation and related hazards. Proper lighting of interiors and workstations.	x	x			x					
22	Chemical and Biological Hazard Factors	An introduction to the basic concepts and legal regulations relating to the presence of hazardous chemicals and biological agents in the workplace. Existing systems regarding chemical factors and the classification of biological factors are presented. The handling of hazardous chemical and biological substances. Examples of exposed occupational groups, routes of exposure and occupational diseases.	x	x			x					
23	Pre-Medical First Aid	Legal basis and principles of first aid in selected emergency situations. Cardiopulmonary resuscitation in adults, children, and infants. Use of an automated external defibrillator. Heimlich maneuver.		x			x			x		
24	English B2 module II	Second part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
25	English B2+ module II	Second part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
26	English C1 module II	Second part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
27	German B2 module II	Second part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
28	Reliability and Statistic	Factors affecting components of technical systems, definitions of reliability. Reliability states and reliability functions of an object. Reliability of serial, parallel, and series-parallel systems. Human reliability as an element of a human-machine system. Correlation and regression analysis. Numerical and graphical characteristics of statistical test results. Parametric and nonparametric estimation. Probability distributions.	x				x					
29	Fire Protection and Technical Rescue	Fire protection regulations for buildings, other structures, and areas. Fire protection obligations of the owner, manager, and user of the facility. Passive and active fire protection systems. Evacuation during a fire. Fire safety instructions. Rules of conduct for employees in the event of a fire. Technical rescue.		x			x					
30	Sustainable Development and Protection of the Working Environment	Fundamentals of the ESG concept and their importance for the sustainable development of organizations and the work environment. Application of life cycle assessment (LCA) of products and processes in evaluating impacts on the work environment. Integration of ESG principles and LCA results in organizational and environmental decision-making.				x	x			x	x	

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
31	Physical Hazard Factors	Identification, classification, and analysis of physical factors present in the workplace environment. Measurement methods and principles for determining and assessing exposure indicators, with particular emphasis on mechanical and fire hazards.	x	x			x	x				
32	Entrepreneurship, Technology Transfer and Intellectual Property Protection	Patent law, intellectual property protection procedures, and financial analysis and assessment of the innovativeness of the projects discussed. Introduction to practical managerial, formal, and legal aspects, economic fundamentals (e.g., preparing a business plan), and organizational aspects of running a business.				x				x		x
33	Microclimate of the Work Environment	Atmospheric air parameters in the work environment. Hot microclimate, moderate microclimate, cold microclimate. Protection of young workers – the impact of the microclimate on the human body.	x	x			x					
34	Management and Production Engineering	The essence and scope of management, the organizational environment, management functions, production systems and their classification, selected methods and techniques of production management.			x		x	x				
35	Organization of Production Processes and Safety Management	Organization and operation of production processes and the shaping of safe working conditions. Design of production structures, work planning and coordination, process standardization, and managerial responsibility in the context of safety. Modern and innovative organizational solutions. Health and safety management concepts, a systematic approach to health and safety, health and safety management metrics.			x		x	x				
36	English B2 module III	Third part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
37	English B2+ module III	Third part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
38	English C1 module III	Third part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
39	German B2 module III	Third part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of interpersonal skills oriented around the future working environment of the university graduate.										
40	Ergonomics and Occupational Physiology	Types of work and their physiological characteristics, the health effects and principles of work organization. Factors modifying the ability to work. Definitions of ergonomics and basic related concepts, the nature of ergonomic activities. Principles of design using anthropometric tables and considering the type of work. Ergonomic analysis of objects. Designing and adapting the spaces (workplaces, public spaces, workstations) to needs and capabilities of people with disabilities.		x				x		x	x	

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
41	Personal Protective Equipment I	European Union regulations on personal protective equipment (PPE). Requirements, test methods, and principles for selecting PPE to protect against hazards, as well as the fundamentals of protective equipment design.		x			x	x				
42	Occupational Risk Assessment	Legal regulations concerning occupational risk assessment. The occupational risk assessment process. Methods of hazard analysis and occupational risk estimation. Risk acceptability. Documentation of occupational risk assessment.		x	x			x		x		
43	Process Risk Managment	Principles and the model of the process risk management process. Methods for the analysis and assessment of process risk for upper-tier establishments with a major accident hazard or lower-tier establishments with increased risk.			x			x				
44	Major Industrial Accidents Prevention	The process of shaping a system for preventing major industrial accidents. Establishments posing a risk of major accidents. Establishment classification and notification, major accident prevention policy, safety management system, safety report, internal and external emergency plans.			x				x			
45	Industry 4.0+ in Process Safety and Occupational Health and Safety Management	Historical background of the fourth industrial revolution and technological megatrends. The concept of Industry 4.0+ and the rationale for its implementation in the field of occupational safety and health and process safety. Digitalisation of industrial processes. Application of cyber-physical systems, the Internet of Things, artificial intelligence and data analytics in OSH.		x			x			x		
46	Crisis Management and Civil Defence	Legal foundations of the crisis management and civil defense system.Types of threats and crisis situations. Structure and tasks of state institutions and public administration authorities within the crisis management and civil defence system. Crisis planning. Response to crisis situations and mitigation of their consequences. Protection of the population and critical infrastructure.		x			x			x		
47	Transport of Hazardous Materials	Basic concepts of dangerous goods transport under the ADR, RID, IMDG, ICAO/IATA, and ADN systems, with particular emphasis on ADR. Required documentation, labeling, and basic requirements for packaging, vehicles, and crew. Classification of dangerous goods, types of hazards, responsibilities of transport participants, and principles of transport authorization and restrictions.		x	x		x					
48	Occupational Health and Safety Training	Employee training obligations under labour law. Reasons for conducting health and safety training and instruction. The purpose of creating your own training procedures, training programmes and instructions. Introductory issues in adult education – andragogy. Issues of styles and methods of effective communication. Practical organisation of training/instruction in the conditions existing in the workplace. Principles and purpose of training evaluation. Multimedia support for educational activities.		x			x					
49	English B2 module IV	Fourth part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
50	English B2+ module IV	Fourth part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
51	English C1 module IV	Fourth part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
52	German B2 module IV	Fourth part of a business language course with elements of industry-specific terminology; development of all language skills; development and improvement of soft skills oriented around the future working environment of the university graduate.							x			
53	Safe Use of Machinery and Equipment	Legal requirements concerning the safe use of machinery, including general occupational health and safety regulations, minimum requirements for the protection of workers' safety and health related to the use of machinery at work, with particular emphasis on European regulations concerning essential requirements for machinery.		x			x	x		x		
54	Personal Protective Equipment II	Continuation of topics covered in the course "Safety and Protection Measures I". European Union regulations on personal protective equipment. Requirements, test methods, and principles for selecting PPE to protect against hazards, as well as the fundamentals of protective equipment design.		x			x	x				
55	International Standards in Safety	Legal regulations and other sources of safety standards in an enterprise. The role of organizational and technical standards in an enterprise. Thematic categories of safety standards. Links between safety management systems in an enterprise and organizational and technical safety standards.		x			x		x			
56	Particularly Hazardous Work	Legal basis for the organization, supervision, and control of particularly hazardous work. Classification of particularly hazardous work. Safety principles when organizing particularly hazardous work. Procedures for performing particularly hazardous work.		x			x		x			
57	Occupational Accidents, Industrial Failures, and Occupational Diseases	Definitions in the field of occupational accidents, occupational diseases, and industrial failures. The role and tasks of the post-accident and post-failure investigation teams. Methods for investigating the circumstances and causes of occupational accidents, industrial failures, and occupational diseases. Documentation. Prevention. Benefits payable in the event of occupational accidents and occupational diseases.		x			x	x		x		
58	Safety in Unit Operations	Technological process as a set of unit operations and reactor processes. Phase equilibria. Chemical reactivity. Graphical diagrams of process installations. Technological process balance. General characteristics of selected unit operations. Process hazards.	x	x			x				x	
59	Safety in Renewable Energy Installations	Fundamentals of safety in operating renewable energy installations, including: photovoltaic farms, wind power plants, electricity storage systems, installations with electrolyzers for hydrogen production, the Haber-Bosch reactor for green ammonia production, high-temperature and solid oxide fuel cells.										

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
60	Textile Materials in Safety	Textile materials in occupational safety systems, including individual and collective protection and technical infrastructure. The types of raw materials and structures of textile materials and their properties affecting safety and durability will be discussed.		x			x					
61	Smart Materials in Safety Engineering	Materials and techniques for obtaining functional materials (sensors and actuators) used to develop individual and collective protective equipment to ensure the required level of mechanical, thermal, and flame-retardant protection. Intelligent and active textile materials. Research, evaluation, and certification of smart protective materials.		x				x				
62	Safety in Energy Sector	Basics of the construction and operation of power plants, transmission and distribution lines, and power stations. Fundamentals of safety in operation of devices and installations used in the power engineering.		x				x				
63	Safe Electrical Installations	Design, safe construction and operation of low voltage electrical installations.		x				x				
64	Occupational Safety in Construction	Engineering structures. Technologies and structures used in construction. Organization and technology of construction works, construction site development, and construction support equipment and systems. Working conditions on the construction site and hazards. Principles of safe construction. Legal acts regulating occupational safety in construction. The Safety and Health Protection Plan (BIOZ), the Safe Work Instructions (IBWR), and the Work Organization Project (POR).		x			x					
65	Practical Aspects of Occupational Health and Safety	Analysis of court proceedings in the field of occupational health and safety, accidents at work in the light of the Criminal Code, inspections by the National Labour Inspectorate, and the case law of labour and social security courts. Multidimensional analysis of the root causes of accidents at work. Economic aspects of accident rates – the AKK model.		x			x			x		
66	Occupational Health and Safety, Quality and Environmental Management Systems	Quality management system based on ISO 9001. Environmental management system based on ISO 14001. Occupational health and safety management system based on ISO 45001. Similarities among the above-mentioned systems, as well as the key requirements that differentiate these management systems. System documentation. Auditing.			x					x		
67	Summative Module	Implementation of a task in small project teams involving the analysis and development of a solution to a real occupational safety engineering problem.					x	x		x		x
68	Technical Safety in Explosive Atmospheres	Identification and assessment of explosion hazards and principles for classifying hazardous areas. Properties of flammable substances, mechanisms of explosive atmosphere formation, and ignition sources. Methods for reducing explosion risk, including the selection of explosion-proof equipment and installations and the use of technical protection measures. Documentation related to occupational safety in hazardous areas.		x			x	x		x		
69	Nuclear Safety	Atomic law in Poland and recommendations from the IAEA, PAA, and NCBJ regarding radiological safety. Classification of radiation sources in the workplace and principles of employee protection. Methods for assessing radiological risk and criteria for its interpretation. Principles for selecting protective measures appropriate to the type and level of exposure.		x			x	x		x		

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
70	Technical Noise and Vibration Control Measures	Elimination of noise and vibrations at source. Technical measures for collective and individual protection. Vibration isolation. Selection of vibration isolators, elimination of resonance vibrations, reduction of the effects of sudden changes in the speed of mechanical components. Limitation of vibroacoustic energy transmission along its transmission paths using vibration isolation systems, plate structures, screens, reflective and absorbing acoustic silencers. Material testing.		x			x			x		
71	Individual Dosimetry	Normative acts, research methods, radiation dosimeters, dust, noise, temperature. Rules for measurement, sampling, storage and transport, analytical methods for determining harmful doses. Mobile and stationary devices. Calibration, test reports.		x				x				
72	Safety in Internal Transport and Warehousing	The concept, scope and regulations concerning internal transport and storage. Manual transport work, machinery, equipment and transport safety. Rules for operation, maintenance, technical inspection and organisation of traffic and communication routes in storage facilities. Storage safety, requirements for racks, and automation and robotisation of storage processes.			x		x	x				
73	Occupational Health and Safety in Logistics	The scope and specificity of logistics processes. The importance of health and safety in ensuring the continuity of supply chains. Health and safety in transport and freight forwarding. Automation, robotisation and digitalisation of logistics processes. Hazards and accidents in logistics processes.			x		x	x				
74	Diploma Seminar	Research methodology, principles of writing a diploma thesis, and the presentation and discussion of the results of the diploma thesis. Preparation for the competency examination verifying the aggregated learning outcomes.					x				x	x
75	Final Project	The engineering thesis addresses the application of appropriate research methodology, including a review of the relevant literature as well as legal acts and standards, and the formulation of hypotheses or research objectives. The selection of research methods and tools suitable for solving a problem in the field of safety. The work includes conducting analyses and/or experiments (if applicable), as well as the analysis and interpretation of the obtained results. The detailed scope of the thesis depends on the selected engineering thesis topic.					x	x		x	x	
76	Internship	Performing tasks in an industrial or research environment using the knowledge and skills acquired during studies.								x	x	x
77	Feasibility Study	Basic concepts related to the preparation of an industrial feasibility study: (i) technological and systemic aspects, (ii) economic aspects, (iii) legal aspects, (iv) operational aspects, and (v) time aspects. Discussion of the structure of a feasibility study and the tools used in its preparation.				x	x			x	x	
78	Management of Technological Changes	The essence and factors of technology development. Technology and organization life cycle models and their role in technology learning processes. Changes in the management of modern organizations. Change process methodology. Management and control of the technology change process.				x	x			x		
79	Safety Culture and Behavioral Audits	Organisational culture and health and safety culture. Factors determining health and safety culture. Safety climate. Health and safety culture models. Good practices supporting the development of health and safety culture. Designing activities supporting the development of health and safety culture. Behavioural audits – concept, implementation principles, execution, improvement, measurement and documentation.			x			x		x	x	

No.	Course name	Program content	1IBP1	1IBP2	1IBP3	1IBP4	1IBP5	1IBP6	1IBP7	1IBP8	1IBP9	1IBP10
80	Safety-Oriented Behaviors and Attitudes in Organization	Psychological aspects of safety, individual behaviour in dangerous situations, influencing employee behaviour, behaviour-based safety, the BBS concept, process efficiency. BBS in practice: planning, implementation, maintenance, monitoring, improvement, documentation. BBS and health and safety culture.			x			x		x	x	

ECTS - subjects

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
1	Mathematics I	7				
2	Physics	5				
3	Introduction to Occupational Health and Safety	6			6	
4	Technical Mechanics	5				
5	Engineering Graphics and Construction Documentation	3				
6	Information Technology	4				
7	Mathematics II	7				
8	Fundamentals of General Chemistry	5			5	
9	Fundamentals of Electronics and Electrical Engineering	5			5	
10	Labour Law and Psychology	6	6		6	
11	Cybersecurity	2				
12	CAD Tools	3				
13	English B2 module I	2		2		
14	English B2+ module I	2		2		
15	English C1 module I	2		2		
16	German B2 module I	2		2		
17	Fundamentals of Industrial Automation	3			3	
18	Chemical Engineering in the Petrochemical Industry	7		7	7	
19	Chemical Engineering in Environmental Protection	7		7	7	
20	Machine Elements	3				

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
21	Electrical and Electromagnetic Hazard Factors	6				
22	Chemical and Biological Hazard Factors	6			6	
23	Pre-Medical First Aid	3				
24	English B2 module II	2		2		
25	English B2+ module II	2		2		
26	English C1 module II	2		2		
27	German B2 module II	2		2		
28	Reliability and Statistic	5				
29	Fire Protection and Technical Rescue	3			3	
30	Sustainable Development and Protection of the Working Environment	2			2	
31	Physical Hazard Factors	6			6	
32	Entrepreneurship, Technology Transfer and Intellectual Property Protection	3				
33	Microclimate of the Work Environment	2			2	
34	Management and Production Engineering	7		7	7	
35	Organization of Production Processes and Safety Management	7		7	7	
36	English B2 module III	2		2		
37	English B2+ module III	2		2		
38	English C1 module III	2		2		
39	German B2 module III	2		2		
40	Ergonomics and Occupational Physiology	5			5	
41	Personal Protective Equipment I	5			5	

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
42	Occupational Risk Assessment	4				
43	Process Risk Managment	4		4	4	
44	Major Industrial Accidents Prevention	4		4	4	
45	Industry 4.0+ in Process Safety and Occupational Health and Safety Management	3		3	3	
46	Crisis Management and Civil Defence	3		3	3	
47	Transport of Hazardous Materials	3				
48	Occupational Health and Safety Training	3			3	
49	English B2 module IV	3		3		
50	English B2+ module IV	3		3		
51	English C1 module IV	3		3		
52	German B2 module IV	3		3		
53	Safe Use of Machinery and Equipment	5			5	
54	Personal Protective Equipment II	5			5	
55	International Standards in Safety	2		2		2
56	Particularly Hazardous Work	2		2		2
57	Occupational Accidents, Industrial Failures, and Occupational Diseases	5			5	
58	Safety in Unit Operations	5		5	5	
59	Safety in Renewable Energy Installations	5		5	5	
60	Textile Materials in Safety	3		3	3	
61	Smart Materials in Safety Engineering	3		3	3	
62	Safety in Energy Sector	5		5		

No.	Course name	ECTS	Subjects in the field of humanities and social sciences	Elective subjects	Profile items	Classes in a foreign language
63	Safe Electrical Installations	5		5		
64	Occupational Safety in Construction	5			5	
65	Practical Aspects of Occupational Health and Safety	3			3	
66	Occupational Health and Safety, Quality and Environmental Management Systems	7			7	
67	Summative Module	7			7	
68	Technical Safety in Explosive Atmospheres	3		3		
69	Nuclear Safety	3		3		
70	Technical Noise and Vibration Control Measures	3		3	3	
71	Individual Dosimetry	3		3	3	
72	Safety in Internal Transport and Warehousing	2		2	2	
73	Occupational Health and Safety in Logistics	2		2	2	
74	Diploma Seminar	3			3	
75	Final Project	15		15	15	
76	Internship	6				
77	Feasibility Study	3		3	3	
78	Management of Technological Changes	3		3	3	
79	Safety Culture and Behavioral Audits	3		3	3	
80	Safety-Oriented Behaviors and Attitudes in Organization	3		3	3	

ECTS indicators

Name	Value
The total number of ECTS credits that a student must obtain through elective courses (amounting to no less than 30% of the total ECTS credits required to obtain the qualification corresponding to the given level of study)	74/240 (30.83%)
The total number of ECTS credits to be earned by a student through courses in the fields of humanities or social sciences	6
The total number of ECTS credits that a student must obtain from courses related to research conducted at the university, amounting to more than 50% of the total ECTS credits required to graduate from a given level of study	152/240 (63.33%)

Methods of verifying and assessing learning outcomes

Verification of achieved learning outcomes requires the application of diversified assessment methods appropriate to the categories of knowledge, skills, and social competencies to which the outcomes relate. The selection of appropriate assessment tools also depends on the specific nature of the course and the form of instruction, and is described in detail in the course syllabuses.

Achievement of the required learning outcomes is assessed through:

1. written assignments and examinations (including examinations, tests, reports, essays, projects, posters, diploma theses, etc.);

2. oral forms of assessment (including oral examinations, public presentations, participation in academic discussions or debates, delivery of papers and presentations, etc.);

3. practical and/or project-based tasks (both individual and team-based);

4. observation and assessment of students' activity during classes;

5. self-assessment and peer assessment, particularly in the case of team projects;

6. competency examinations and the diploma examination.

Assessment procedures may be formative (partial and conducted repeatedly during the course) and/or summative (final assessment). Final verification results are expressed according to the grading scale currently in force at Lodz University of Technology.

At the beginning of each course, the course coordinator or instructor is obliged to discuss the course syllabus and provide students with documented information regarding the methods of assessment and the conditions for verification of learning outcomes.

Professional internships

Professional internships have a duration of six weeks, corresponding to 6 ECTS credits. Internships are conducted in accordance with the principles and procedures applicable at Lodz University of Technology.

Characteristics of the course

Graduate profile

A graduate of the Occupational Safety Engineering degree programme possesses interdisciplinary knowledge in the fields of occupational hazards, safety and protection measures, risk management, ergonomics, work physiology, occupational health and safety (OHS) culture, workplace design, emergency medical response, crisis management, and process safety in the chemical industry and related industrial sectors. The programme integrates technical, analytical, and managerial competencies while addressing the challenges associated with sustainable development, as well as the green and digital transformation of the economy.

Graduates are professionally prepared to perform duties in the areas of occupational health and safety and process safety management. They possess competencies enabling them to:

perform the duties of an OHS specialist in accordance with applicable legal regulations and standards;
conduct occupational, process, and explosion risk assessments and analyses;
design and monitor technical working conditions, as well as assess the compliance of machinery and industrial installations with safety requirements;
design workplaces in accordance with ergonomic principles, including the needs of persons with disabilities and individuals requiring special accommodations;
investigate the circumstances and root causes of industrial failures, occupational accidents, and occupational diseases;
supervise compliance with occupational safety standards and OHS regulations;
implement and continuously improve integrated management systems related to occupational health and safety, quality, and environmental protection within enterprises, including performing the role of an internal auditor of integrated management systems;
deliver OHS training programmes and maintain occupational safety documentation;
participate in activities related to process risk management and industrial safety;
select appropriate personal protective equipment and collective protection measures corresponding to identified hazards;
undertake activities within the scope of first aid and pre-medical emergency response.
Owing to their command of the English language at the B2 level, graduates are able to actively participate in international projects and scientific conferences, analyse specialist and technical literature, and work effectively in international environments and organisations implementing global occupational safety standards.

Graduates are also capable of working in interdisciplinary teams, carrying out engineering projects, and communicating effectively with representatives of industry and public administration.

Students additionally have the opportunity to obtain certificates confirming supplementary professional qualifications.

The relationship between the field of study and the university's strategy

The Occupational Safety Engineering degree programme has been developed in full accordance with the Lodz University of Technology Strategy for 2025–2030, adopted under Resolution No. 39/2024 of the Senate of Lodz University of Technology. This approach supports the implementation of the University’s vision as a modern and distinguished research university fostering talent, competencies, and technologies for the benefit of society and the economy.

The programme also contributes to the mission of Lodz University of Technology, focused on building a sustainable research university, strengthening the academic community through cooperation with alumni and former employees, and developing innovative models of collaboration with industry and external stakeholders. The University Strategy identifies the following key strategic areas: IMPACT, INTERNATIONALIZATION, INNOVATION, SCIENCE, INFRASTRUCTURE, STAFF, TALENTS, SUSTAINABILITY, EDUCATION, and STUDENTS.

In the area of IMPACT (socio-economic engagement), Lodz University of Technology actively contributes to societal and economic development through scientific research and education conducted in dialogue and cooperation with the socio-economic environment. The Occupational Safety Engineering programme responds to the concept of lifelong learning by addressing the educational needs of both secondary school students and professional personnel operating within industry and public institutions. The programme strengthens community-oriented initiatives in cooperation with local government authorities and non-governmental organisations. Furthermore, students are encouraged to undertake diploma projects focused on solving real-world socio-economic and industrial challenges.

Within the INTERNATIONALIZATION area, Lodz University of Technology enhances its international visibility and reputation through intensified global cooperation and academic exchange. The programme supports this objective by enabling students to develop foreign

language competencies, participate in courses delivered in English, and benefit from international mobility schemes such as Erasmus+. Students are encouraged to engage in scientific activities, including presenting research findings and engineering projects, thereby preparing graduates for professional activity in international environments and organisations applying global occupational safety standards. The development of an international and diverse academic community centred around shared research interests also contributes to improving curricula and professional training programmes, bridging the gap between domestic labour market demands and the educational potential arising from educating specialists from different countries.

The study programme also supports the objectives of the INNOVATION area by strengthening synergies between science and industry, while enhancing the innovative potential of the University, the economy, and society. The curriculum provides education in modern methods, techniques, tools, and innovative solutions applied in occupational safety engineering, including issues related to digitalisation, automation, cybersecurity, Industry 4.0+, and technological change management, thereby responding to the needs of an innovation-driven economy. Simultaneously, students develop competencies related to technology transfer, commercialisation of research outcomes, intellectual property protection, and entrepreneurship, including the creation of innovative start-up initiatives.

In the area of LEADERSHIP (management and organisational culture), the programme contributes to strengthening students' sense of belonging to the academic community of Lodz University of Technology, while fostering organisational cohesion, integration, and collaboration among students and academic staff.

The programme's consistency with the SCIENCE area is reflected in active support for students' scientific development and their involvement in research activities. This includes opportunities to participate in internships and research projects, involvement in research teams — including interdisciplinary teams — attendance at scientific seminars and conferences, and conducting research within diploma theses. Additionally, students may obtain support in acquiring funding for scientific development (e.g., through the E2TOP programme) and engage in student scientific associations such as SUKCES and Safety Under Construction.

The Occupational Safety Engineering programme aligns with the INFRASTRUCTURE area by ensuring students' access to modern educational and research facilities, including specialised laboratories, while simultaneously developing solutions that enhance accessibility for persons with special needs.

In the STAFF area, Lodz University of Technology supports the professional development of academic staff involved in delivering the programme, promoting cooperation, openness, responsibility, and professional ethics. Academic teachers continuously improve their qualifications in modern teaching methodologies and maintain access to up-to-date knowledge regarding technological advancement and emerging scientific trends in occupational safety engineering. Moreover, they are provided with opportunities for personal, cultural, and sports-related development, as well as the pursuit of individual interests and passions.

Consistent with the TALENTS area, Lodz University of Technology aims to recruit candidates with the highest developmental potential for the programme through active promotion and recruitment policies, while systematically supporting staff engaged in motivating students to participate in scientific research activities.

The programme also corresponds with the SUSTAINABILITY area, which emphasises the continuous development of the University while respecting the principles of sustainable development and promoting solutions supporting their implementation. The programme develops competencies in innovative occupational safety engineering aimed at achieving environmental, social, and economic sustainability objectives.

The development of an educational model preparing graduates for the dynamically changing demands of the socio-economic environment is implemented within the EDUCATION area. The programme continuously enhances the competencies of academic teachers in modern teaching methods, current scientific knowledge, technological progress, and contemporary research trends. This is associated with continuous improvement of the educational offer, including supplementary forms of education. Central to the optimisation of the educational process is strengthening talent management through the individualisation of learning paths for students and doctoral candidates, supporting students' scientific development with emphasis on interdisciplinarity and internationalisation, increasing student participation in university research projects, and intensifying opportunities for gaining practical experience outside the University environment.

The STUDENTS area defines Lodz University of Technology as a student-friendly institution that provides optimal study conditions and comprehensive support systems. The Occupational Safety Engineering programme supports students in developing competencies aligned with labour market expectations, as well as in undertaking scientific, cultural, and sports-related activities. The system of student support and motivation is implemented with consideration of generational needs, equality principles, and the creation of an environment conducive to academic and professional development.

Educational objectives and employment and continuing education opportunities

The primary objective of the educational process is to prepare engineering graduates capable of performing OHS service duties in both public and private sector enterprises. Graduates acquire professional qualifications specified in the Regulation on Occupational Health and Safety Services and are prepared to perform the role of internal auditors of occupational health and safety management systems.

Graduates are qualified to undertake employment within OHS services in sectors requiring specialised professional competencies, including the chemical and petrochemical industries, the energy sector (including renewable energy sources and nuclear energy), construction, logistics, transportation, and the storage of hazardous goods and materials. They may also find employment in institutions responsible for supervising working conditions and technical safety, as well as in research and development institutions.

Graduates are awarded the professional title of Engineer and are eligible to continue their education at second-cycle (Master's degree) programmes.

Description of the process and outcome of consultations on the proposed study program with the socio-economic environment

During the development of the study programme, continuous consultations were conducted with representatives of the socio-economic environment, including discussions held within the framework of the Business Council. The consultations focused primarily on the intended learning outcomes, the graduate profile, and the programme content, with particular emphasis on the professional and social competencies expected by the labour market.

The outcomes of these consultations were reflected in two formal reviews of the study programme prepared by representatives of the socio-economic environment. These review documents constitute Appendix No. 1.

Description of competencies expected from a candidate applying for admission to studies

In accordance with the admissions resolution.

The unit organizing education

Faculty of Process and Environmental Engineering

Education program

Semester 1

Course	Number of hours	ECTS points	Form of verification	Obligatory
Mathematics I	Tutorials: 60 Lecture: 30	7	Exam	Obligatory
Physics	Tutorials: 30 Lecture: 30	5	Graded assignment	Obligatory
Introduction to Occupational Health and Safety	Seminar: 15 Project work: 30 Lecture: 15	6	Exam	Obligatory
Technical Mechanics	Tutorials: 15 Laboratory classes: 15 Lecture: 30	5	Graded assignment	Obligatory
Engineering Graphics and Construction Documentation	Laboratory classes: 30 Lecture: 15	3	Graded assignment	Obligatory
Information Technology	Laboratory classes: 45 E-learning: 15	4	Graded assignment	Obligatory
Sum	**375**	**30**		

Semester 2

Course	Number of hours	ECTS points	Form of verification	Obligatory
Mathematics II	Tutorials: 60 Lecture: 30	7	Exam	Obligatory
Fundamentals of General Chemistry	Tutorials: 15 Laboratory classes: 15 Lecture: 30	5	Graded assignment	Obligatory

Course	Number of hours	ECTS points	Form of verification	Obligatory
Fundamentals of Electronics and Electrical Engineering	Laboratory classes: 30 Lecture: 30	5	Graded assignment	Obligatory
Labour Law and Psychology	Tutorials: 30 Lecture: 30	6	Exam	Obligatory
Cybersecurity	Laboratory classes: 30	2	Graded assignment	Obligatory
CAD Tools	Project work: 45	3	Graded assignment	Obligatory
Foreign Language Module 1		2	Graded assignment	Obligatory group
The student chooses one module from the group.				
English B2 module I	Tutorials: 30	2	Graded assignment	Optional
English B2+ module I	Tutorials: 30	2	Graded assignment	Optional
English C1 module I	Tutorials: 30	2	Graded assignment	Optional
German B2 module I	Tutorials: 30	2	Graded assignment	Optional
Physical Education 1	Tutorials: 30	0	Pass	Obligatory
Sum	**405**	**30**		

Semester 3

Course	Number of hours	ECTS points	Form of verification	Obligatory
Fundamentals of Industrial Automation	Laboratory classes: 15 Project work: 15 Lecture: 15	3	Graded assignment	Obligatory
Elective Courses 1		7	Exam	Obligatory group
The student chooses 1 course from the group.				
Chemical Engineering in the Petrochemical Industry	Tutorials: 30 Laboratory classes: 30 Lecture: 30	7	Exam	Optional

Course	Number of hours	ECTS points	Form of verification	Obligatory
Chemical Engineering in Environmental Protection	Tutorials: 30 Laboratory classes: 30 Lecture: 30	7	Exam	Optional
Machine Elements	Project work: 30 Lecture: 15	3	Graded assignment	Obligatory
Electrical and Electromagnetic Hazard Factors	Laboratory classes: 30 Lecture: 45	6	Graded assignment	Obligatory
Chemical and Biological Hazard Factors	Laboratory classes: 30 Lecture: 45	6	Exam	Obligatory
Pre-Medical First Aid	Tutorials: 30 Lecture: 15	3	Graded assignment	Obligatory
Foreign Language Module 2		2	Graded assignment	Obligatory group
The student chooses one module from the group.				
English B2 module II	Tutorials: 30	2	Graded assignment	Optional
English B2+ module II	Tutorials: 30	2	Graded assignment	Optional
English C1 module II	Tutorials: 30	2	Graded assignment	Optional
German B2 module II	Tutorials: 30	2	Graded assignment	Optional
Physical Education 2	Tutorials: 30	0	Pass	Obligatory
Sum	**435**	**30**		

Semester 4

Course	Number of hours	ECTS points	Form of verification	Obligatory
Reliability and Statistic	Tutorials: 15 Laboratory classes: 15 Lecture: 30	5	Graded assignment	Obligatory

Course	Number of hours	ECTS points	Form of verification	Obligatory
Fire Protection and Technical Rescue	Tutorials: 15 Seminar: 15 E-learning: 15	3	Graded assignment	Obligatory
Sustainable Development and Protection of the Working Environment	Project work: 15 Lecture: 15	2	Graded assignment	Obligatory
Physical Hazard Factors	Laboratory classes: 30 Lecture: 45	6	Exam	Obligatory
Entrepreneurship, Technology Transfer and Intellectual Property Protection	Project work: 30 Lecture: 15	3	Graded assignment	Obligatory
Microclimate of the Work Environment	Laboratory classes: 15 Lecture: 15	2	Graded assignment	Obligatory
Elective Courses 2		7	Exam	Obligatory group
The student chooses 1 course from the group.				
Management and Production Engineering	Tutorials: 30 Laboratory classes: 30 Lecture: 30	7	Exam	Optional
Organization of Production Processes and Safety Management	Tutorials: 30 Laboratory classes: 30 Lecture: 30	7	Exam	Optional
Foreign Language Module 3		2	Graded assignment	Obligatory group
The student chooses one module from the group.				
English B2 module III	Tutorials: 30	2	Graded assignment	Optional
English B2+ module III	Tutorials: 30	2	Graded assignment	Optional
English C1 module III	Tutorials: 30	2	Graded assignment	Optional
German B2 module III	Tutorials: 30	2	Graded assignment	Optional
Physical Education 3	Tutorials: 30	0	Pass	Obligatory
Sum	**435**	**30**		

Semester 5

Course	Number of hours	ECTS points	Form of verification	Obligatory
Ergonomics and Occupational Physiology	Tutorials: 15 Laboratory classes: 15 Project work: 15 Lecture: 30	5	Graded assignment	Obligatory
Personal Protective Equipment I	Laboratory classes: 30 Project work: 15 Lecture: 30	5	Exam	Obligatory
Occupational Risk Assessment	Tutorials: 15 Project work: 30 Lecture: 15	4	Graded assignment	Obligatory
Elective Courses 3		4	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Process Risk Managment	Seminar: 15 Project work: 45	4	Graded assignment	Optional
Major Industrial Accidents Prevention	Seminar: 15 Project work: 45	4	Graded assignment	Optional
Elective Courses 4		3	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Industry 4.0+ in Process Safety and Occupational Health and Safety Management	Seminar: 15 Project work: 30	3	Graded assignment	Optional
Crisis Management and Civil Defence	Seminar: 15 Project work: 30	3	Graded assignment	Optional
Transport of Hazardous Materials	Project work: 30 Lecture: 15	3	Graded assignment	Obligatory
Occupational Health and Safety Training	Project work: 30 Lecture: 15	3	Graded assignment	Obligatory
Foreign Language Module 4		3	Exam	Obligatory group
The student chooses one module from the group.				

Course	Number of hours	ECTS points	Form of verification	Obligatory
English B2 module IV	Tutorials: 30	3	Exam	Optional
English B2+ module IV	Tutorials: 30	3	Exam	Optional
English C1 module IV	Tutorials: 30	3	Exam	Optional
German B2 module IV	Tutorials: 30	3	Exam	Optional
Sum	**435**	**30**		

Semester 6

Course	Number of hours	ECTS points	Form of verification	Obligatory
Safe Use of Machinery and Equipment	Project work: 45 Lecture: 15	5	Exam	Obligatory
Personal Protective Equipment II	Laboratory classes: 30 Project work: 15 Lecture: 30	5	Graded assignment	Obligatory
Elective Course 5		2	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
International Standards in Safety	Seminar: 30	2	Graded assignment	Optional
Particularly Hazardous Work	Seminar: 30	2	Graded assignment	Optional
Occupational Accidents, Industrial Failures, and Occupational Diseases	Project work: 30 Lecture: 30	5	Exam	Obligatory
Elective Courses 6		5	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Safety in Unit Operations	Seminar: 45 Project work: 15	5	Graded assignment	Optional
Safety in Renewable Energy Installations	Seminar: 45 Project work: 15	5	Graded assignment	Optional

Course	Number of hours	ECTS points	Form of verification	Obligatory
Elective Courses 7		3	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Textile Materials in Safety	Seminar: 15 Laboratory classes: 30	3	Graded assignment	Optional
Smart Materials in Safety Engineering	Seminar: 15 Laboratory classes: 30	3	Graded assignment	Optional
Elective Courses 8		5	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Safety in Energy Sector	Tutorials: 15 Project work: 30 Lecture: 15	5	Graded assignment	Optional
Safe Electrical Installations	Tutorials: 15 Project work: 30 Lecture: 15	5	Graded assignment	Optional
Sum	**390**	**30**		

Semester 7

Course	Number of hours	ECTS points	Form of verification	Obligatory
Occupational Safety in Construction	Seminar: 15 Project work: 15 Lecture: 30	5	Exam	Obligatory
Practical Aspects of Occupational Health and Safety	Tutorials: 30 Lecture: 15	3	Graded assignment	Obligatory
Occupational Health and Safety, Quality and Environmental Management Systems	Project work: 45 Lecture: 45	7	Exam	Obligatory
Summative Module	Project work: 90	7	Graded assignment	Obligatory
Elective Courses 9		3	Graded assignment	Obligatory group

Course	Number of hours	ECTS points	Form of verification	Obligatory
The student chooses 1 course from the group.				
Technical Safety in Explosive Atmospheres	Project work: 30 Lecture: 15	3	Graded assignment	Optional
Nuclear Safety	Project work: 30 Lecture: 15	3	Graded assignment	Optional
Elective Courses 10		3	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Technical Noise and Vibration Control Measures	Seminar: 15 Laboratory classes: 30	3	Graded assignment	Optional
Individual Dosimetry	Seminar: 15 Laboratory classes: 30	3	Graded assignment	Optional
Elective Courses 11		2	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Safety in Internal Transport and Warehousing	Seminar: 15 Project work: 15	2	Graded assignment	Optional
Occupational Health and Safety in Logistics	Seminar: 15 Project work: 15	2	Graded assignment	Optional
Sum	**405**	**30**		

Semester 8

Course	Number of hours	ECTS points	Form of verification	Obligatory
Diploma Seminar	Seminar: 45	3	Graded assignment + exam	Obligatory
Final Project	Diploma Thesis: 0	15	Pass	Obligatory subjects to choose from
Internship	Internship: 0	6	Pass	Obligatory

Course	Number of hours	ECTS points	Form of verification	Obligatory
Elective Courses 12		3	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Feasibility Study	Project work: 30 Lecture: 15	3	Graded assignment	Optional
Management of Technological Changes	Project work: 30 Lecture: 15	3	Graded assignment	Optional
Elective Courses 13		3	Graded assignment	Obligatory group
The student chooses 1 course from the group.				
Safety Culture and Behavioral Audits	Seminar: 15 Project work: 30	3	Graded assignment	Optional
Safety-Oriented Behaviors and Attitudes in Organization	Seminar: 15 Project work: 30	3	Graded assignment	Optional
Sum	**135**	**30**		