



RĪGAS TEHNISKĀ UNIVERSITĀTE

Reģ.Nr.90000068977, Kipsalas iela 6A, Rīga, LV-1048, Latvija
Tālr.:67089999; Fakss:67089710, e-pasts:rtu@rtu.lv, www.rtu.lvwww.rtu.lv

26.04.2024 02:45

Study programme "Safety Engineering"

Main attributes

Title	Safety Engineering
Identification code	ICO0
Education classification code	42862
Level and type	Professional Bachelor (First Cycle) Studies
Higher education study field	Internal Security and Civil Protection
Head of the study field	Māris Jurušs
Department responsible	Faculty of Engineering Economics and Management
Head of the study programme	Māris Ziemelis
Professional classification code	2263-01
The type of study programme	Full time
Language	Latvian, English
Accreditation	05.06.2013 - 31.12.2024; Accreditation certificate No 24
Volume (credit points)	160.0
Duration of studies (years)	Full time studies - 4,0
Degree or/and qualification to be obtained	Professional Bachelor Degree in Occupational Safety and Qualification of Chief Specialist in Occupational Safety
Qualification level to be obtained	The 6th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF); the 6th level of professional qualification
Programme prerequisites	General Secondary Education or 4-year Vocational Secondary Education

Description

Abstract	<p>The study programme is designed to train labour protection engineers for companies in various sectors, as well as for public institutions. The studies include the acquisition of sector-specific knowledge on labour protection, regulatory enactments governing the field, internal monitoring of the working environment, assessment and management of risk factors in the working environment, as well as knowledge on civil protection and fire safety, etc. In addition to theoretical knowledge, there will be practical training in its application, as well as internships in the labour protection departments of companies or public institutions. According to the regulatory enactments, any company or institution must have a labour protection system, which includes a coherent and comprehensive labour protection management system, and must take the necessary measures to ensure safe and secure working conditions. Therefore, the study programme prepares specialists important for the national economy, and the acquired knowledge also allows to perform the duties of a fire safety and civil protection specialist. Establishing a labour protection system helps companies and institutions to ensure the safety and health of workers at work through a range of preventive, economic, social, technical and organisational measures, as well as to create a safe and healthy working environment by preventing accidents at work and occupational diseases, thereby creating value for society as a whole.</p>
Aim	<p>The aim of the study programme is to train labour protection engineers who can also perform the functions of fire safety and civil protection specialists, to develop students' understanding of professional ethics and the principles of good practice in labour protection, as well as to form the basis for further studies to acquire a higher level of knowledge and competence.</p>
Tasks	<p>General aims of the study programme:</p> <ul style="list-style-type: none">- to provide a competitive education in security engineering that meets the bachelor's study level and international standards, and to prepare students for practical work;- to provide students with comprehensive knowledge, build skills and develop abilities in accordance with the requirements of the labour market for a security engineer, in accordance with the requirements of regulatory enactments for a specialist in labour, fire safety and civil protection;- to stimulate students' interest in further education and development, and in supplementing their professional knowledge;- to ensure the development and changes of the study programme content, study process and scientific research work in accordance with the development of the field and international practice;- to stimulate students' interest in the national processes in the field of technogenic environmental safety, to stimulate students' development into positive, responsible and capable individuals who can act independently and take decisions independently;- to promote interaction between academic staff and students in carrying out scientific research work and in the practical application of the results obtained;- to develop international exchanges of academic staff and students and participation in educational and scientific projects.

Learning outcomes	<p>Graduate of the study programme is:</p> <ul style="list-style-type: none"> -able to create, implement and provide a comprehensive labour protection management system, cooperate with state administrative institutions, as well as plan and implement the necessary briefings and training in the field of labour protection, ensure the conduct of mandatory health examinations, management of occupational diseases and investigation of accidents at work in accordance with the requirements of regulatory acts; - able to assess the risk factors of the work environment by choosing and applying various work environment risk assessment methods and calculations, as well as provide proposals for engineering safety solutions by performing appropriate calculations, develop and organise measures to prevent or reduce work environment risks to an acceptable level, as well as conduct briefings and training of employees on the impact of risk factors of the work environment and protection against them; - able to participate in the transformation of the work environment, in the process of introducing new work equipment and new technologies, evaluating the compliance of the equipment used by the company with standards, ensuring safety monitoring of dangerous equipment, as well as determining safety devices and technologies, and conducting employee training; - able to participate in the planning and implementation of fire safety, civil defence and disaster management solutions, ensure the necessary measures in crisis communication, ensure the availability and implementation of first aid, as well as participate in measures to assess and mitigate threats to the surrounding environment; - able to constantly improve professional qualifications and knowledge, follow labour protection and engineering current events, plan and organise labour protection measures, use appropriate information and communication technologies, as well as develop reports, write publications and prepare presentations on innovations in the industry, create social dialogue in society, participate in building the company's reputation, communicate in the national language (C2 level) and in one or more foreign languages.
Final/state examination procedure, assessment	<p>The study programme is completed by a state examination, which includes the elaboration and public defence of a Bachelor thesis at an open meeting of the State Examination Committee (SEC). The Bachelor thesis can only be defended if the student's knowledge and skills in the theoretical and specialised areas of the field have been successfully assessed.</p> <p>The state examination demonstrates the student's ability to:- locate, summarise and analyse relevant legislation, academic and professional literature in the field (including in English);</p> <ul style="list-style-type: none"> - by using appropriate methodology and information processing technologies, analyse the organisation's labour protection system and assess its compliance with regulatory enactments; - to carry out an independent study of a specific labour protection issue of importance and relevance to the company; - to draw reasoned conclusions and make appropriate proposals; - to present proposals and defend one's professional and personal views; <p>The SEC shall be composed of at least five members. The head of the Committee and at least half of its members shall be representatives of professional organisations or employers in the sector. The SEC collectively assesses students' knowledge, skills and competence on a 10-point scale.</p>
Description of the future employment	<p>Labour protection engineer monitors and manages the working environment internally. Labour protection engineer applies engineering solutions, assesses and manages complex risk factors in the working environment. This includes safety assessment of technological processes in various sectors, safety analysis and action plan development of technical designs and other technical documentation for engineering communications and systems, analysis and improvement of safety systems, assessment of fire safety and fire protection systems, as well as civil protection and disaster management.</p> <p>Labour protection engineer may act as a competent professional, participate in the services offered by the competent authority in the field of labour protection, work in enterprises or act as a state labour inspector.</p>
Special enrollment requirements	No
Opportunity to continue studies	Master studies

Courses

No	Code	Name	Credit points
A		Compulsory Study Courses	84.0
A1		General Education Study Courses	12.0
1	ICA706	Civil Defence	3.0
2	SDD701	Innovative Product Development and Entrepreneurship	4.0
3	ITA704	Economics	4.0
4	ICD702	Introduction to Speciality	1.0
A.2		Field-Specific Theoretical Basic and IT Study Courses	36.0
1	DMF101	Mathematics	9.0
2	DMS201	Mathematics (specialized course)	4.0
3	MFB105	Physics	6.0
4	IKI760	Basics of Quality Management	3.0
5	DIP106	Algorithmization and Programming of Solutions	5.0
6	ΚVΚ115	Chemistry for Engineers	2.0
7	MTH202	Technical Mechanics	2.0
8	EAS312	Environmental Engineering. Part 1	2.0
9	IDA713	Occupational Health and Basic Principles of Industrial Medicine	3.0
A.3		Field-Specific Professional Study Courses	36.0
1	ICD704	Legislation on Labour Protection, Fire Safety and Civil Defence	3.0
2	ICD711	Organization of Labour Protection System (study project)	2.0
3	ICD721	Ergonomics and Work Psychology	2.0
4	EEA194	Electrical Safety	3.0
5	ICD708	Fundamentals of Labour Law	2.0
6	ICD707	Personal and Collective Means of Protection	3.0
7	ICD709	Safety Requirements for Workplaces	3.0
8	ICD712	Safety Equipment (study project)	2.0
9	ICD717	Working Environment Risk Prevention Methods	4.0
10	ICA703	Organisation of Fire Security Preventive Works and Fire Investigation	3.0
11	ICA704	Fire Protection and Prevention (course project)	2.0
12	ICA705	Disaster Management (course project)	2.0
13	ICA717	Work Equipment Safety and Supervision	5.0
B		Compulsory Elective Study Courses	32.0
B1		Field-Specific Study Courses	24.0
1	ICD714	Industrial Waste Management	2.0
2	ICA707	Construction Fire Safety	3.0
3	ΚST560	Materials Science	3.0
4	EEE226	Electrical Engineering and Electronics	2.0
5	BSG330	Heating, Ventilation and air Conditioning	2.0
6	IDA408	Safety in the Use of Hazardous Substances	3.0
7	ICA709	Fire Protection Systems	2.0
8	IKI866	Metrology and Industrial Measurements	4.0
9	IKI865	Standardization	2.0
10	BBR223	Construction Technology and Safety	4.0
11	ICA716	Management of Technogenic Environment Safety	2.0
12	ICA718	Safety and Risk Assessment of Technological Processes	5.0
B2		Humanities and Social Sciences Study Courses	4.0
1	HSP489	Organizational Psychology	2.0
2	HPS120	Basics of Communication	2.0
3	IÄS720	Intercultural Communication	2.0
B6		Languages	4.0
1	HDG405	English	4.0
2	HDG418	German	4.0
C		Free Elective Study Courses	6.0
D		Practical Placement	26.0
1	ICD715	Specialized Practice	16.0
2	ICD716	Practical Placement for Pre-Graduation Project	10.0
E		Final Examination	12.0
1	ICD701	Bachelor Thesis Including Project	12.0