



RĪGAS TEHNISKĀ UNIVERSITĀTE

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Study programme "Safety Engineering"

Main attributes

Title	Safety Engineering
Identification code	ICO0
Education classification code	42862
Level and type	Professional Bachelor Study
Higher education study field	Internal Security and Civil Protection
Head of the study field	Aivars Vilnis Krastiņš
Department responsible	Faculty of Engineering Economics and Management
Head of the study programme	Jānis Ieviņš
Professional classification code	2263-01
The type of study programme	Full time
Language	Latvian
Accreditation	05.06.2013 - 31.12.2023; 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 5th level of Latvian Professional Qualifications
Programme prerequisites	General Secondary Education or 4-year Vocational Secondary Education

Description

Abstract	The study programme "Safety Engineering" includes such study courses as Labour Protection, Engineering, Economics, Management, Fundamentals of Labour Law and Environmental Science. In addition, students acquire a thorough knowledge in fire safety and civil defence in order to be able to perform the duties of a person responsible for fire safety and civil defence at a company or institution. Students are able to work at companies in any economic sector. Until now, 3 study programmes have been implemented in Latvia, which in general positively influence technogenic environment safety but do not provide a complex vision of this aspect and a possibility to control industrial impact on the labour environment in general, as well as durable and complex safety monitoring and life and health quality of human resources. Growth in production technological integration level leads to the necessity for complex assessment of technogenic environment. If until now labour protection, fire safety and civil defence have been viewed as individual disciplines, then technogenic integration – automation of production processes by combining in a single system successive, various technologies (of different degrees of hazard and different impact types upon human health, life and welfare) – determines the necessity to integrate labour environment safety and management disciplines. The study programme, which includes lectures, practical classes, term papers and internship, prescribes to acquire an in-depth knowledge of evaluation fundamentals of technogenic labour environmental complex and methods of solving problems in a labour environment.
Aim	The aim of the professional bachelor study programme "Safety Engineering" is to provide the professional bachelor's education in safety engineering in order to ensure the acquisition of theoretical knowledge and practical skills meeting the requirements of the 2nd level professional higher education, which allows graduates to work as senior specialists in labour protection or as fire safety and civil defence specialists.
Tasks	The tasks of the study programme are the following: 1. to ensure competitive second level professional higher education meeting international standards and to provide students with an opportunity to gain practical work experience relevant to future employment; 2. to provide students with comprehensive knowledge about the requirements of the European Union and International Labour Organization in the field of labour protection, as well as enable students to obtain a thorough knowledge of laws concerning labour protection, fire safety and civil defence; 3. to encourage students to continue their education and improve professional skills; 4. to promote students' interest in the technogenic environment processes in the country and to enable the students to become positive, responsible and capable individuals, who can work independently and make their own decisions; 5. to ensure amendments to the content, learning process, research development according to the changes in the given sphere and international practice.

Learning outcomes	<p>Graduates are able:</p> <ul style="list-style-type: none"> to analyse and apply in practice the requirements of regulatory enactments in the spheres of labour protection, fire safety and civil defence; to organize and plan work associated with internal supervision of labour environment and fire safety supervision, risk assessment and measures for risk prevention or reduction; to plan work in labour protection and therewith related environment protection at an enterprise or institution; to inspect, supervise and control an enterprise labour environment, fire safety and civil defence facilities, ensuring the compliance with major requirements of employees' occupational safety and health protection at workplaces; to analyse and assess the compliance of supervision and control results with requirements of regulatory enactments on internal supervision and fire safety; to apply in practice the labour environment risk assessment methods, including qualitative, semi-qualitative and quantitative assessment methods; to identify and solve ergonomic, psychosocial and organizational problems of labour environment; to give arguments in favour of the priorities and expediency of planned measures; to organize and implement training of employees on issues of labour protection, fire safety and civil defence; to act in emergency situations; to represent an enterprise in other enterprises, state and non-governmental institutions in relation to natural persons; to carry out studies of scientific value in the field of labour protection.
Final/state examination procedure, assessment	<p>Bachelor Thesis (with the project) can be defended only if all requirements of the study programme are fulfilled. Bachelor Thesis (with the project) involves research concerning labour safety or health protection at a workplace, where a specific hazardous or harmful labour environment factor is studied and specific measures are worked out to eliminate or reduce this hazardous or harmful factor to a permissible level. Bachelor Thesis is publicly defended at an open meeting of the State Examination Commission appointed by the Rector of RTU. Bachelor Theses are evaluated by reviewers appointed by the Dean of the Faculty of Engineering Economics and Management. Bachelor Thesis (with the project) is evaluated according to a 10-point grade system.</p>
Description of the future employment	<p>Graduates of the study programme can work as Senior Specialists in Labour Protection at enterprises and institutions regardless of the form of estate, offer services as competent specialists and can be employed as State Labour Inspectors at the State Labour Inspectorate.</p>
Special enrollment requirements	<p>Applicants are admitted to full-time studies according to the results of centralized exams.</p>
Opportunity to continue studies	<p>Graduates have the opportunity to continue their education at the professional master study programme "Labour Protection" and upon completing the master study programme they may continue studies at the doctoral level.</p>

Courses

No	Code	Name	Credit points
A		Compulsory study courses	100.0
A1		General education study courses	14.0
1	DDM101	Mathematics	9.0
2	IUE217	Business Economics	2.0
3	HPS120	Basics of Communication	2.0
4	ICD702	Introduction to Speciality	1.0
A.2		Field specific theoretical basic study courses and IT study	36.0
1	MKI518	Total Quality Management	4.0
2	MFA101	Physics	6.0
3	DIP106	Algorithmization and Programming of Solutions	5.0
4	ҚVҚ115	Chemistry for Engineers	2.0
5	ICD718	Management of Technogenic Environment Safety	3.0
6	MTH202	Technical Mechanics	2.0
7	IDA713	Occupational Health and Basic Principles of Industrial Medicine	3.0
8	EEE120	Electrical Engineering and Electronics	3.0
9	ҚST560	Materials Science	3.0
10	ICD705	Work Equipment Safety	3.0
11	HSP446	Pedagogy	2.0
A.3		Field specific professional study courses	50.0
1	BSG330	Heating, Ventilation and air Conditioning	2.0
2	ICD704	Legislation on Labour Protection, Fire Safety and Civil Defence	3.0
3	ICD711	Organization of Labour Protection System (study project)	2.0
4	ICD721	Ergonomics and Work Psychology	2.0
5	EEA194	Electrical Safety	3.0
6	ICD708	Fundamentals of Labour Law	2.0
7	IDA505	Dangerous Industrial Equipment and its Monitoring	2.0
8	IDA408	Safety in the Use of Hazardous Substances	3.0
9	ICD707	Personal and Collective Means of Protection	3.0
10	IDA503	Environment Protection	2.0
11	ICD709	Safety Requirements for Workplaces	3.0
12	ICD710	Safety Equipment	2.0
13	ICD712	Safety Equipment (study project)	2.0
14	ICD717	Working Environment Risk Prevention Methods	4.0
15	ICA706	Civil Defence	3.0
16	ICA703	Organisation of Fire Security Preventive Works and Fire Investigation	3.0
17	ICA704	Fire Protection and Prevention (course project)	2.0
18	ICA709	Fire Protection Systems	2.0
19	ICA705	Disaster Management (course project)	2.0
20	ICA708	Fire Safety of Technological Processes and Explosion Hazard	3.0
B		Compulsory elective study courses	16.0
B1		Field-specific study course	10.0
1	BMT415	Diagnostics of Buildings	3.0
2	ICD714	Industrial Waste Management	2.0
3	ICA707	Construction Fire Safety	3.0
4	ICA710	Tactics and Equipment for Fire-Extinguishing and Rescue Work	2.0
5	IKI763	Principles of Market Supervision	2.0
6	MKI323	Industrial Measurements	3.0
7	MKI508	Conformity Assessment	3.0
8	ICA711	Evaluation and Reduction of Industrial Emergency Risks	2.0
B2		Humanities and social sciences study courses	2.0
1	HSP489	Organizational Psychology	2.0
2	HSP375	Sociology of Management	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