



RĪGAS TEHNISKĀ UNIVERSITĀTE

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Study programme "Maritime Transport - Marine Electrical Automation"

Main attributes

Title	Maritime Transport - Marine Electrical Automation
Identification code	UCE0
Education classification code	42525
Level and type	Professional Bachelor (First Cycle) Studies
Higher education study field	Mechanics and Metal Processing, Heat Power Engineering, Heat Technology, and Mechanical Engineering
Head of the study field	Marina Čerpinska
Department responsible	Latvian Maritime Academy
Head of the study programme	Edijs Štāls
Professional classification code	3151 18
The type of study programme	Full time, Extramural
Language	Latvian, English
Accreditation	16.11.2022 - 17.11.2028; Accreditation certificate No 2022/30-A
Volume (credit points)	278.0
Duration of studies (years)	Full time studies - 4,3; Extramural - 5,0
Degree or/and qualification to be obtained	
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	Secondary education

Description

Abstract	The study programme provides first cycle professional higher education in accordance with the regulations on the national standard for professional higher education. In addition, the study programme shall provide for the acquisition of a sixth level vocational qualification in ship's electrical engineering corresponding to level 6 of the framework and in accordance with Directive 2022/993 of the European Parliament and of the Council of 8 June 2022 on the minimum level of training of seafarers and the set of tasks, duties and responsibilities grouped in the Code of the International Convention on the Training, Certification and Watchkeeping for Seafarers, 1978 (as amended) (STCW Convention) necessary for the operation of ships, safety at sea and the protection of the environment.
Aim	To prepare high quality internationally accepted management level specialists in the maritime sector capable of managing and operating engineering systems, electrical, electronic, control, communication and computer systems on board ships without limitations. As regards main propulsion equipment, and capable of carrying out maintenance and repairs with due regard for the safety of the ship and of persons and the protection of the environment.
Tasks	<p>Study programme objectives:</p> <p>To provide knowledge of the theoretical basis and operating principles of engineering, electrical and electronic control systems, communication and computer systems on board ships. Through various courses: electrical engineering, electronics, computer science, communication technology, systems engineering and maritime technology.</p> <p>To teach how to solve engineering, electrical and electronic control systems, communication and computer systems management, maintenance and repair tasks on board ship, based on practical and theoretical knowledge.</p> <p>To teach how to deal with situations related to safety management, emergency prevention and response, and environmental policy and practice, providing students with the necessary knowledge and skills.</p> <p>To teach leadership and management tasks including conflict resolution, teamwork, project management and other elements of management in order to contribute to the development of students' management skills.</p> <p>Provide knowledge of relevant international maritime norms and standards, including IMO standards, to ensure students' understanding of international regulations and requirements.</p> <p>To provide an understanding of the operation, maintenance and repair of ships' main propulsion machinery, providing students with knowledge and skills in this area.</p> <p>To strengthen students' foreign language skills to facilitate effective communication in an international maritime environment.</p>

Learning outcomes	<p>Graduates of the study programme:</p> <ul style="list-style-type: none"> - able to monitor the operation of shipboard electrical systems and equipment; - able to monitor the operation of the ship's electronic and automatic control systems; - able to operate the ship's generators and power distribution systems; - able to operate the ship's high voltage systems; - able to operate shipboard computers and computer networks; - able to use professional English in the performance of their duties; - able to use the ship's internal communication systems; - able to carry out maintenance and repair of shipboard electrical and electronic equipment; - able to maintain and repair the ship's main power plant and auxiliary automatic control systems; - capable of maintaining and repairing the ship's navigation equipment and communication systems; - capable of performing maintenance and repair of electrical, electronic and control systems for deck machinery and cargo handling equipment; - capable of maintaining and repairing the ship's domestic equipment control and safety systems; - able to deal with emergency situations on board; - able to comply with environmental pollution prevention requirements; - able to prevent, control and extinguish a fire on board; - able to use life-saving appliances; - able to administer first aid on board; - able to monitor compliance with regulatory requirements; - able to apply leadership and teamwork skills; - able to promote the safety of personnel and the ship; - able to perform the duties of a ship's electrical engineer in accordance with maritime transport regulations, standards and changes thereto; - able to use the national language; - able to use information and communication technologies; - able to apply the principles and techniques of mathematics and science; - able to observe social and civic principles; - able to respect the norms of labour relations; - able to apply the principles of entrepreneurship and initiative; - able to develop professional qualifications.
Final/state examination procedure, assessment	<p>Final examination component is:</p> <ul style="list-style-type: none"> - development and defence of a diploma thesis (diploma project) or bachelor's thesis; - maritime English language test; - qualification test in accordance with the STCW and the methodology of the Latvian Maritime Administration Seafarers' Register.
Description of the future employment	<p>An electrical engineer may work on board Latvian, European Union or foreign vessels in international shipping. May immediately work as an electrical engineer (STCW A-III/6) on seagoing vessels (including oil tankers, liquefied gas tankers, passenger ships, container ships, bulk carriers, reefer vessels, etc.), as well as on inland waterway vessels, coastal vessels, fishing vessels and other vessels without limitation as to main propulsion power. In addition, depending on experience, it is possible to work in maritime, ship electrical repair, logistics and other sectors requiring technical supervision, as well as onshore as an automation systems engineer, electrical engineer. In the maritime sector, it is also possible to work as an operative, coming on board a ship to repair it quickly. There is also the possibility of finding a job in the wind power industry. A bachelor's degree allows you to work in the research field.</p>
Special enrollment requirements	<p>Compliance with the requirements of the Health Regulations of the Cabinet of Ministers No 273 of 3 June 2014 "Regulations on the Medical Fitness of Seafarers for Work on Board".</p>
Opportunity to continue studies	<p>Continue studies in a master's study programme by fulfilling the relevant admission requirements.</p>

Courses

No	Code	Name	Credit points
A		Compulsory Study Courses	188.0
A.1		General Education Study Courses	30.0
1	JA0127	Psychology of Human Relations in the Maritime Environment	3.0
2	JA0044	Maritime English	13.0
3	JA0046	Maritime Economy	2.0
4	JA0008	Maritime Economy (study work)	1.0
5	JA0122	Latvian Shipping History	3.0
6	JA0159	Engine Room Resource Management	3.0
7	JA0058	Sports (Swimming)	2.0
8	JA0126	Philosophy of Science	3.0
A.2		Field-Specific Theoretical Basic and IT Study Courses	65.0
1	JA0040	Civil Protection	2.0
2	JA0142	Physics	6.0
3	JA0042	Engineering Graphics	2.0
4	JA0002	Engineering Mechanics for Ship Engineers	4.0
5	JA0043	The Maritime Law	2.0
6	JA0005	Shipbuilding Materials	4.0
7	JA0157	Ship Computer Networks and Cyber Security	3.0
8	JA0004	Marine Electrical Machines	7.0
9	JA0006	Marine Electronics	4.0
10	JA0169	Ship Electrical Engineering	9.0
11	JA0056	Quality Management in Maritime Transport	2.0
12	JA0133	Applied Chemistry	3.0
13	JA0057	Mathematics	14.0
14	JA0154	Heating Technology	3.0
A.3		Field-Specific Professional Study Courses	93.0
1	JA0161	Occupational Safety and Legislation Onboard	3.0
2	JA0170	Maritime English for Marine Engineers	12.0
3	JA0136	Maritime Safety	6.0
4	JA0152	Ship High Voltage Equipment	3.0
5	JA0007	Ship Automation Elements and Devices	4.0
6	JA0010	Marine Diesels Engines and Turbines	4.0
7	JA0165	Ship Electrical Equipment	12.0
8	JA0156	Ship Construction and Theory	3.0
9	JA0160	Technical Operation of Ships Electrical Equipment	3.0
10	JA0153	Ship Power Electronics	3.0
11	JA0049	Ship Power Electronics (study work)	2.0
12	JA0168	Marine Information Technology	3.0
13	JA0009	Ship Integrated Computer Control Systems	4.0
14	JA0158	Ship Measuring Equipment	3.0
15	JA0166	Marine Microprocessor and PLC Technologies	3.0
16	JA0003	Ship Auxiliary Machinery and Associated Systems	4.0
17	JA0051	Operation of Ships Radio Navigation and Communication Equipment	5.0
18	JA0016	Ship Construction and Theory	4.0
19	JA0047	Ship Construction and Theory (Study Work)	2.0
20	JA0164	Ship Automation Systems	6.0
21	JA0054	Ship Construction and Theory	2.0
22	JA0059	Prevention of Pollution at Sea	2.0
C		Free Elective Study Courses	9.0
D		Practical Placement	60.0
1	JA0163	Shipboard Works and Workshop Practice	12.0
2	JA0167	Seagoing Practice	39.0
3	JA0155	Ships Repair Practice (or Seagoing Practice)	9.0
E		Final Examination	21.0
1	JA0045	Maritime English (Graduation Test)	2.0
2	JA0055	Qualification Examination in the Speciality	2.0
3	JA0162	Diploma Project	17.0