RĪGAS TEHNISKĀ UNIVERSITĀTE

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Study programme "Aviation Transport"

Main attributes

Title	Aviation Transport
Identification code	MCA0
Education classification code	42525
Level and type	Professional Bachelor Study
Higher education study field	Mechanics and Metal Working, Heat Power, Heat Engineering and Mechanical Engineering
Head of the study field	Aldis Balodis
Department responsible	Faculty of Mechanical Engineering, Transport and Aeronautics
Head of the study programme	Andris Rijkuris
Professional classification code	2144-44; 2152-08
The type of study programme	Full time
Language	Latvian, English
Accreditation	29.05.2013 - 30.06.2022; Accreditation certificate No 2020/43
Volume (credit points)	162.0
Duration of studies (years)	Full time studies - 4,0
Degree or/and qualification to be obtained	Professional Bachelor Degree in Aviation Transport and Qualification of Mechanical Engineer in Transport Aircraft Technical Maintenance or Avionics Engineer in Transport Aircraft Technical Maintenance
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	Professional Bachelor Study programme "Aviation Transport" provides knowledge that complies with the requirements of the state standards of the higher professional education and international documents regulating the air transport related professions. The programme provides the level of knowledge required for performing professional responsibilities defined by the International Civil Aviation Organization (ICAO) in compliance with the European Commission Regulation (EC) No 2042/2003. The scope and contents of the study programme comply with the requirements defined by the European Aviation Safety Agency (EASA), Civil Aviation Agency (CAA) of the Republic of Latvia, Ministry of Education and Science of the Republic of Latvia and with the professional standard: Aircraft Maintenance Mechanical Engineer (code of profession – PS0364) or Aircraft Maintenance Avionics Engineer (code of profession – PS0365).
Aim	The goal of the study programme is to provide the required professional education in the field of air transport to train and educate internationally recognized specialists, who are able to perform works related to the maintenance of aircraft mechanisms and avionic systems as well as to analyse and design the operation of systems. The required knowledge, skills and competences acquired during the studies provide an aircraft maintenance mechanical engineer or avionics engineer with the opportunity to successfully compete on the labour market, renovate and maintain the infrastructure of air transport branch, carry out research as well as to continue training in order to obtain a Master degree.
Tasks	Knowledge of fundamental sciences as well as theoretical knowledge and expertise in the field of aviation acquired during the studies are consolidated in laboratories by using models, benches, simulators, where students get practical knowledge about the operating principles, design and maintenance of aviation equipment. Students have to develop the ability to carry out research and apply practical and theoretical knowledge acquired when elaborating a project within the framework of a Bachelor Paper. They have to acquire knowledge and practical skills that comply with the requirements of the European aviation companies and to get prepared for entering the European labour market.

Learning outcomes	Knowledge (knowledge and understanding) Students can demonstrate basic knowledge and expertise in the field of air transport systems and be able to critically assess the knowledge gained. The students acquire knowledge on the latest achievements in the field of air transport systems. Students can demonstrate understanding of the most important concepts and regularities in the field of air transport systems. Skills (ability to use knowledge, communication, general skills) By applying theory and skills acquired while studying at the study programme "Air Transport" students can: - carry out professional, innovative and research activities; - formulate and analytically describe information, problems and solutions in the field of air transport systems; - explain and reasonably discuss topical issues related to air transport and aircraft maintenance both with professionals and non-professionals. Students can independently structure their studies, influence their own advancement in the studies and professional growth, demonstrate scientific approach to problem solving, assume responsibility and initiative for individual work, team work or managing other people's work, make decisions and find creative solutions in changeable or uncertain conditions. Competence (analysis, synthesis and evaluation) Students can independently obtain, select and analyse information related to air transport systems, use this information, make decisions and solve problems in the field of air transport and aircraft maintenance. Students can show understanding of professional ethics, assess the influence of their own professional activities on the environment and society as well as participate in the development of the field of air transport systems.
Final/state examination procedure, assessment	Professional Bachelor Degree in aviation transport and qualification of an aircraft maintenance mechanical engineer or avionics engineer is awarded after passing state examinations and successfully defending the Bachelor Paper with a design project.
Description of the future employment	An aircraft maintenance mechanical engineer or avionics engineer works at the organizations or companies that use aircraft, perform aircraft maintenance, servicing and repair. A maintenance mechanical engineer performs tasks related to using aircraft's mechanisms, supervision and servicing, analyses economic aspects, plans the works to be done, prepares equipment and mechanisms for work. An avionics engineer performs tasks related to using aircraft's electronic, electrical and electromechanical equipment, its supervision and servicing and prepares electronic and electrical equipment for work. He/she carries out research in the field of aircraft maintenance
Special enrollment requirements	Entry requirements for the study programme: general or vocational secondary education.
Opportunity to continue studies	The obtained professional Bachelor Degree in air transport provides the opportunity to study at the professional or academic Master study programmes.

Courses

No	Code	Name	Credit points
A		**Compulsory study courses**	**77.0**
A1		**General education study courses**	**19.0**
1	DMS101	Mathematics	9.0
2	TAE107	Introduction to the Aviation Branch	2.0
3	HVD101	The English Language	2.0
4	SDD700	Innovative Product Development and Entrepreneurship	6.0
A.2		**Field specific theoretical basic study courses and IT study**	**39.0**
1	MFB101	Physics	6.0
2	TAA206	Fundamentals of Electronic Engineering	2.0
3	TAA104	Fundamentals of Electrical Engineering	4.0
4	TAS207	Materials and Hardware	4.0
5	AVI700	Digital Techniques Electronic Instrument Systems	3.0
6	TAE304	Aviation Legislation	2.0
7	TAE315	Human Factor	2.0
8	TAA212	Electrical Power Supply Systems of Aircraft	2.0
9	TSL703	Modern Application Packages for Computers	3.0
10	LTK700	Supplementary Mathematics (Aviation Transport)	4.0
11	TSL700	Aviation Technical English	4.0
12	TAA437	Measurements in Avionics Devices and Systems	3.0
A.3		**Field specific professional study courses**	**19.0**
			13.0
1	ICA301	Civil Defence	1.0
2	IDA700	Basics of Labour Protection	1.0
3	TAE314	Safety of Aircraft Flights	2.0
4	TAS517	The Nondestructive Methods of Monitoring of Aviation Construction	3.0
5	TAS215	Technical Mechanics	4.0
6	TAS100	Fundamentals of Aerodynamics	2.0
			6.0
1	TAS209	Mechanics of Airframes (Study Project)	2.0
2	TAK433	Aircraft and Engine Structure and Strength (Study Project)	2.0
3	TAE443	Aircraft and Powerplant Maintenance (Study Project)	2.0
			6.0
1	TAA215	Digital Techniques Electronic Instrument Systems (Study Project)	2.0
2	TAA258	Aircraft Electrical and Power Supply Systems (Study Project)	2.0
3	TAA260	The Technical Maintenance of the Aircraft Electrical Devices (Study Project)	2.0
B		**Compulsory elective study courses**	**41.0**
B1		**Field-specific study course**	**39.0**
			12.0
1	IET103	Economics	2.0
2	HVD230	The English Language	1.0
3	DMS212	Probability Theory and Mathematical Statistics	2.0
4	MMP101	Fundamentals of Computer Science	3.0
5	BTG131	Descriptive Geometry and Engineering Graphics	2.0
6	TAE203	Organization and Ensuring of Aircraft Operation	2.0
7	TAE518	Ergonomics and Work Safety in Air Transport	2.0
8	MAB215	General Metrology	3.0
9	MTM202	Theoretical Mechanics	3.0
10	MMP107	Resistance of Materials	3.0
11	TAA211	Aircraft Electrical Systems	3.0
12	TAA413	Devices and Systems of Control of Aircraft Powerplant	2.0
13	TAS308	Fundamentals of Aircraft Manufacturing Technology	3.0
14	TAK205	Supplementary Mathematics (Aviation Transport)	2.0
15	TAK230	Aviation Technical English	2.0
16	TAS705	Computer Design of Machines and Mechanisms	2.0
			27.0
1	TAS219	Aerohydromechanics	3.0
2	TAE307	Theory of Aircraft Engines	3.0
3	TAE306	Structure and Strength of Aviation Gas Turbine Engines	4.0

4	TAS212	Mechanics of Airframes	4.0
5	TAE515	Engineering diagnostics of an aircraft	3.0
6	TAS304	Construction Mechanics	3.0
7	TAD521	Civil Aviation Engines	3.0
8	TAK502	Civil Aviation Aircraft	3.0
9	TAL425	Aerodynamics of Aircrafts	2.0
10	TAA515	Aircraft Aviation and Radioelectronic Equipment	3.0
11	TAK402	Aircraft Strength	4.0
12	TAE211	Fluid and Gas Systems of Aircraft	2.0
13	TAE431	Technical Operation of Aircraft and Engines	3.0
14	TAK302	Vehicle Loading, Safe - Life and Inspection	2.0
15	TAK526	Structure Peculiarities of Modern Aircraft	2.0
16	TAE209	Propeller	2.0
17	TAD325	Heat Technics and Thermodynamics	2.0
18	TAD212	Structure of a Piston Engine	3.0
19	TAK201	Design of Special Vehicles of Aviation	2.0
20	TAK423	Transmission of a ground vehicle	3.0
21	TAD311	Fundamentals of Automatics	2.0
22	TAA531	Global Satellite Navigation Systems	2.0
23	TAA311	Microprocessor Aviation Technologies	2.0
24	TAK203	Helicopter Systems	3.0
25	TAS105	Helicopter Aerodynamics	2.0
26	TAK103	Helicopter Structure	5.0
27	TAK431	Light Aircraft Conceptual Design	2.0
28	TAK430	Light Aircraft Structure Strength Analysis	2.0
29	TAS210	Experimental Aerodynamics and Aerodynamic Calculations	2.0
30	TAS218	Certification and Standards on Aviation Transport	2.0
31	TAK432	Aircraft Conceptual Design	2.0
32	TAK305	Aircraft Airframe and Systems	2.0
33	TAS211	Computer Methods of Aerodynamics and Strength Calculations	2.0
34	TAS220	Construction Units and Details Designing	2.0
35	TAS309	Aircraft Propulsion System and System Design	2.0
36	TAS310	Aircraft Testing	2.0
37	TAS313	Aeroelasticity	2.0
			27.0
1	TAA415	Antennae and Propagation of Radio Waves	3.0
2	TAA209	Aviation Electrical Machines and Devices	3.0
3	TAA701	Basics of Aviation Devices and Systems	2.0
4	TAA408	Aviation Communication Systems and Nets	2.0
5	TAA306	Devices and Systems of Airborne Computer	2.0
6	TAK204	Human Life and Safety Providing Systems	2.0
7	TAD213	Propulsion	2.0
8	TAA207	Special Chapters of Electronic Engineering	2.0
9	TAA208	Special Parts of Electrical Engineering	2.0
10	TAA231	Aircraft Automatic Control Systems	3.0
11	TAA409	Electric Drive of Aircraft Mechanisms	2.0
12	TAA307	Maintenance of Aircraft Electronic Systems	3.0
13	TAA419	The Aircraft Navigation and Pilotage Complex	3.0
14	TAA501	Aircraft Radio Location Systems	3.0
15	TAA414	Aircraft Radio Navigation Systems	3.0
16	TAA416	Radio Transmitters and Radio Receivers	4.0
17	TAA107	Fundamentals of Communication Systems	2.0
18	TAK222	Aircraft Aerodynamics, Structures and Systems	3.0
19	TAD311	Fundamentals of Automatics	2.0
20	TAA531	Global Satellite Navigation Systems	2.0
21	TAA311	Microprocessor Aviation Technologies	2.0
22	TAA238	Functional Units of Aviation Electronics	2.0
23	TAA308	Means of Aviation Telecommunications	3.0
24	TAA254	Airfield Power Supply Devices and Systems	3.0
25	TAA256	Airfield Lighting Systems	2.0
26	TAA304	Air Traffic Control Radio Systems	3.0

27	TAA216	Circuits and the Signals of the Devices of Avionics	2.0
B2		**Humanities and social sciences study courses**	**2.0**
1	HSP378	Politology	2.0
2	HSP379	Political System of Latvia	2.0
3	HSP380	United Europe and Latvia	2.0
4	IUV101	Fundamentals of Law	2.0
5	TAE221	Economics of Aviation Transport	2.0
6	HFL336	Basic Ethics	2.0
7	HFL330	Business Etiquette	2.0
8	HSP489	Organizational Psychology	2.0
9	HPS120	Basics of Communication	2.0
C		**Free elective study courses**	**6.0**
D		**Practical Placement**	**26.0**
1	TAE010	Practical Placement	26.0
2	TAA010	Practical Placement	26.0
E		**Final examination**	**12.0**
1	TAE012	Bachelor Thesis Including Project	12.0
2	TAK012	Bachelor Paper Including Project	12.0
3	TAS012	Bachelor Thesis Including Project	12.0
4	TAA012	Bachelor Thesis Including Project	12.0