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Study programme "Production Engineering"

Main attributes

Title	Production Engineering
Identification code	MMR0
Education classification code	45521
Level and type	Academic Master Study
Higher education study field	Mechanics and Metal Processing, Heat Power Engineering, Heat Technology, and Mechanical Engineering
Head of the study field	Aldis Balodis
Department responsible	Faculty of Mechanical Engineering, Transport and Aeronautics
Head of the study programme	Anita Avišāne
Professional classification code	
The type of study programme	Full time
Language	Latvian, English
Accreditation	16.11.2022 - 17.11.2028; Accreditation certificate No 2022/30-A
Volume (credit points)	80.0
Duration of studies (years)	Full time studies - 2,0
Degree or/and qualification to be obtained	Master degree of engineering science in manufacturing technology / –
Qualification level to be obtained	The 7th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF)
Programme prerequisites	Bachelor degree of engineering science in mechanical engineering, mechanics and metal processing, or comparable education

Description

Abstract	The study programme is a 7th-level higher education academic study programme, the graduates of which obtain a master's degree in mechanical engineering technology. The duration of studies is 2 years. The amount of the study programme is 80 CP (120 ECTS). The study programme envisages the study of basic science study courses and special study courses of the industry. The study programme is the academic basis for doctoral studies and related fields, independent work of scientific and applied research, and teaching careers in Latvian universities. Also, the study program is intended for specialists and leading employees of mechanical engineering companies who want to deepen their theoretical knowledge and acquire and develop research skills in the field of production technology issues.
Aim	The aim of the study programme is to provide in-debt theoretical knowledge, develop research skills and prepare high-level specialists in the sectors of engineering production and sciences of machines, as well as prepare students for further doctor level studies.
Tasks	The tasks of the study programme: - to provide in-debt knowledge in the fundamental study courses, as well as in special study courses of production engineering and manufacturing engineering; - to acquaint students with research work skills and methods; - to teach students skills to use data processing and analyses methods; - to develop students' abilities to substantiate, draw up and present the research work.
Learning outcomes	The graduates of the study programme: - are able to demonstrate deepened or extended knowledge and understanding, which is in line with the latest findings in the sector and which provide the basis for creative thinking or research, including work at the threshold of different fields; - are able to independently use theory, methods, and problem solution skills that have been mastered during the study process to perform research or highly qualified professional functions; - can substantiate and discuss complicated aspects of engineering or professional field with field specialists. - are able to formulate independently and critically analyse complicated scientific and professional problems, to substantiate decisions and, where necessary, to carry out additional analyses; - can integrate the knowledge of different fields, give input into the creation of new knowledge, develop research or professional activity methods, and demonstrate understanding and ethical responsibility for the possible impact of the results of scientific or professional activities on the environment and society in general.
Final/state examination procedure, assessment	The evaluation system for acquiring the academic master's degree is based on the level of mastering fundamental, general education, profile, and humanitarian study courses according to a 10-point system. At the end of the study programme, students must elaborate a Master Thesis, the volume of which is 20 (30 ECTS) credit points. Master Thesis is presented at a specially summoned open meeting of the State Examination Commission approved by the Dean of the RTU Faculty of Transport and Mechanical Engineering. The Commission includes the academic staff and representatives of companies of mechanical engineering, as well as representatives of the Association of Mechanical Engineering and Metalworking. Master Thesis is based on an in-depth mastering of theoretical knowledge and the development of research skills in the field of production engineering.

Description of the future employment	After studies, graduates can continue studies in the doctoral programmes or work in companies as leading specialists, for example, in companies engaged in computerized designing, production, adjustment, servicing, and repair of products or mechanical engineering and metal constructions, mechanical equipment, and technical devices, products.
Special enrollment requirements	English language proficiency equivalent to at least CEFR B2 level.
Opportunity to continue studies	After graduating from the academic master's study programme "Production Engineering" (45521), students are offered to continue studies in the doctoral study programme "Mechanical Engineering and Mechanics" (51526).

Courses

No	Code	Name	Credit points
A		Compulsory Study Courses	24.0
1	MAI430	Fundamentals of Scientific Research	2.0
2	MAI423	Test Data Processing	2.0
3	MAB451	New Trends in Surface Roughness Control	5.0
4	MAI540	Fundamentals of Patents	2.0
5	MAT120	Material Science	7.0
6	MAT485	Mechanical Engineering	6.0
B		Compulsory Elective Study Courses	30.0
B1		Field-Specific Study Courses	26.0
1	MAB428	Physical Basis of Friction Process	4.0
2	MAB554	Microwelding Technology and Equipment	4.0
3	MAB525	Methods of Nontraditional Technology	4.0
4	MAT121	Research, Diagnostics and Monitoring of Machinery	4.0
5	MAI476	Processing of Parts with NC Tools	3.0
6	MAB408	Statistical Mechanics of Surfaces	5.0
7	MAB540	Tribosystems Calculation	5.0
8	MAI538	Cutting Theory, Physical and Thermal Processes	4.0
9	MAI412	Equipment Design and Production Technology	3.0
B2		Humanities and Social Sciences Study Courses	4.0
1	HSP704	Cognitive and Social Psychology	2.0
2	HSP484	Psychology	2.0
3	HSP446	Pedagogy	2.0
4	HIP702	E-pedagogy for Teaching Design	2.0
5	IKI703	Process Analysis and Management	4.0
6	MKI709	Process Management Methods	4.0
7	IVZ783	Social Responsibility and Business Ethics	4.0
8	HSP485	Communication Psychology	2.0
C		Free Elective Study Courses	6.0
E		Final Examination	20.0
1	MAB002	Master Thesis	20.0