



APPROVED
Chairman of the Board –
Rector KazNRTU named after K. I. Satpayev
M.M. Begentayev
2021

**MODULAR EDUCATIONAL PROGRAM
for 2021-2022 academic year admission**

Education program 7M07111 - Digital engineering of machines and equipment"

Full-time study

Term of study: 2 years

Academic Degree: Magister

Cycle	Code	Name of course	Semester	Academic credits	lecture	laboratory	practice	MSIW	Type of control	Department
Profile training module										
Basic disciplines (BD) (35 credits)										
Institute component (IC) (20 credits)										
BD 1.1.1	LNG210	Foreign language (professional)	1	5	0	0	3	2	Exam	EL
BD 1.2.1	HUM210	History and philosophy of science	2	4	1	0	1	2	Exam	SS
BD 1.3.1	HUM207	Higher school pedagogy	2	4	1	0	1	2	Exam	SS
BD 1.4.1	HUM208	Management psychology	1	3	1	0	1	1	Exam	SS
Practice-oriented module										
	AAP244	Pedagogical practice	2	4					Report	TMT&L
Optional component (OC) (18 credits)										
Professional Engineering Training Module										
BD1. 5.1	TEC297	Innovative installation and commissioning methods for machines and equipment	1	5	2	0	1	2	Exam	TMT&L
BD1. 5.2	TEC700	The system of full maintenance Technological machines and equipment								
BD1. 6.1	TEC701	Intellectual Property Protection	1	5	2	0	1	2	Exam	TMT&L
BD1. 6.2	TEC702	Licensing and copyright								
BD1. 7	TEC706	Innovative drives of machinery and equipment	2	5	2	0	1	2	Exam	TMT&L
BD1. 7.2	TEC707	Innovative technologies for monitoring and diagnosing the state of technological machines								
Profile disciplines (PD) (40 credits)										
The module of innovative technologies										
Institute component (IC)										
PD2. 1	TEC703	Digital methods and means of measuring the parameters of technological machines	1	5	2	0	1	2	Exam	TMT&L
PD2. 2	TEC705	Digital monitoring of machines and equipment	1	5	2	0	1	2	Exam	TMT&L
Optional component (OC)										
PD2. 3.1	TEC710	Predictive maintenance systems for process equipment	2	5	2	0	1	2	Exam	TMT&L
PD2. 3.2	TEC543	Innovative logistics service in repair production								

PD2. 4.1	TEC709	Energy-saving technologies in the operation of technological machines											
PD2. 4.2	TEC708	Energy-saving technologies in practice of operation Technological machines and equipment	2	5	2	0	1	2	Exam	TMT&L			
PD2. 5.1	TEC711	The use of digital technology in the design and construction of technological machines											
PD2. 5.2	TEC712	Innovative equipment and technologies in industry	2	5	2	0	1	2	Exam	TMT&L			
PD2. 6.1	TEC713	Innovative methods for repairing machine parts											
PD2. 6.2	TEC714	Theory and practice of operation and repair of hydro machines and compressors	2	5	2	0	1	2	Exam	TMT&L			
PD2. 7.1	TEC715	Intelligent management of technological equipment complexes											
PD2. 7.2	TEC716	Heattechnical equipment and power plants	2	5	2	0	1	2	Exam	TMT&L			
PD2. 8.1	TEC717	Lubricants and lubrication system for technological machines and equipment											
PD2. 8.2	TEC718	Innovative construction materials of technological machines	2	5	2	0	1	2	Exam	TMT&L			
PD2. 9.1	TEC704	Digital methods and means of technical diagnostics of technological machines and equipment											
PD2. 9.2	TEC719	Innovative technologies in the practice of maintenance and repair of technological machines	2	5	2	0	1	2	Exam	TMT&L			
Practice-oriented module													
PD2. 10	AAP236	Research scientific training	4	7					Report	TMT&L			
Research module (24 credits)													
MSS R	AAP242	Master's student scientific research, including an internship and a master's thesis	1	6					Report				
MSS R	AAP242	Master's student scientific research, including an internship and a master's thesis	2	6					Report				
MSS R	AAP242	Master's student scientific research, including an internship and a master's thesis	3	6					Report				
MSS R	AAP242	Master's student scientific research, including an internship and a master's thesis	4	6					Report				
The module final assessment (12 credits)													
FA	ECA205	Registration and defense of the master's thesis (RaDMT)	4	12					Defense of the master's thesis				
In total:				123									

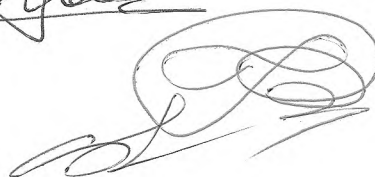
Decision of the Academic Council KazNRTU named after K. I. Satpayev. Minutes # 3, dated 25 06 2021.

Decision of the Academic Council of the IMandIE. Minutes # 12 dated 07 06 2021.

Vice-Rector for Academic Affairs

Director of the Institute of M&IE

Head of department TMT&L

B.A. Zhautikov

K.B. Rysbekov

K. Yelemessov