

Bachelor/Master Program: Master Program

Institute: Institute of engineering, material sciences

Study Program: Design and technological support of engineering industries. Profile

2 – «Technological engineering of modern engineering industries»

№	Subject	Semester	Hours	Credits
M.1.1	Basic part			
M.1.1.1	Business language	/1,2	/72	/2
M.1.1.1	Business language	1	36	1
M.1.1.1	Business language	2	36	1
M.1.1.2	Philosophical problems of science and technology	1	72	2
M.1.1.3	History and Methodology of Science and Production	2	72	2
M.1.1.4	Business Case for Scientific Decisions	3	72	2
M.1.1.5	Mathematical modeling in mechanical engineering	2	108	3
M.1.1.6	Designing flexible automated lines and sections	4	144	4
M.1.1.7	Applied Research Methodology	2	108	3
M.1.1.8	Composite materials in mechanical engineering	1	72	2
M.1.1.9	Reliability and diagnostics of technological systems	4	108	3
M.1.1.10	Robotic processing equipment	3	108	3
M.1.1.11	Modern problems of tool support tool production	2	144	4
M.1.1.12	Quality Assurance Techniques	2	108	3
	Total in the base part		1188	33
M.1.2	Variable part			
M.1.2.1	Mathematical methods in applied research	1	108	3
M.1.2.2	Mathematical modeling of dynamic systems	1	144	4
M.1.2.3	Technological aspects of the formation of complex spatial surfaces	1	180	5
M.1.2.4	Optimization of technological processes in mechanical engineering	1	108	3
M.1.2.5	Additive materials, technologies and equipment	1	108	3
M.1.2.6	CAD complex tool	3	216	6
M.1.2.7	Mathematical modeling of cutting processes	4	216	6
M.1.2.8	Production of sophisticated tools	3	144	4
M.1.2.9	Flexible processes and systems in engineering	2	144	4
M.1.2.10	Improving the technological preparation of production in flexible automated production	3	216	6
M.1.2.11	Technology Entrepreneurship	3	72	2
M.1.3	Disciplines of choice			

M.1.3.1.1	Electrophysical technologies and equipment for the modification and processing of structural materials	2	108	3
M.1.3.1.2	Technologies and equipment for dimensional processing and assembly of products from polymers and composites	/2	/108	/3
M.1.3.2.1	Automated systems for technological preparation of engineering production	3	216	6
M.1.3.2.2	Design and production of technological support tools in mechanical engineering	/3	/216	/6
M.1.3.3.1	Modern process equipment control systems	1	180	5
M.1.3.3.2	The structure and composition of modern computer control systems for machine tools	/1	/180	/5
M.1.3.3.3	Military training	/1	/180	/5
M.1.3.4.1	Resource-saving technologies of machine-building production	2	216	6
M.1.3.4.2	Low-waste technologies for manufacturing engineering products	/2	/216	/6
M.1.3.5.1	Foreign language for academic purposes	3	108	3
M.1.3.5.2	Foreign language for technical translation	/3	/108	/3
	Total for the variable part		2484	69
M.2	Practices (optional part)			
M.2.1	Production *	2	108	3
M.2.2	Production (pedagogical) *	4	108	3
M.2.3	Research work	4	108	3
M.2.4	Undergraduate	4	108	3
M.3	State final certification (basic part)		216	6
	Total in direction		4320	120
Φ.	Optional disciplines			
Φ.1	Military training	2	243	
Φ. 2	Technological design of multinomenclature production	1	72	8
Φ. 3	Innovative non-waste and low-waste engineering technologies	2	72	8
Φ. 4	Mathematical modeling of technological processes of multinomenclature production	3	72	8