Bachelor Program: Materials science and technology of materials
Study Program: Perspective materials in the chemical and oil industry
Duration: 2 years of study

Language of Training: Russian

№	Subject	Semester	Hours	Credits
	Basic part			
B.1.1.1	History	1	108	3
B.1.1.2	Philosophy	4	144	4
B.1.1.3	Foreign language	1-3	288	8
B.1.1.4	Economy	4	108	3
B.1.1.5	Mathematics	1-4	540	15
B.1.1.6	Physics	2-4	360	10
B.1.1.7	Chemistry	1-2	288	8
B.1.1.8	Physical chemistry	3	144	4
B.1.1.9	Ecology	4	72	2
B.1.1.10	Descriptive geometry	1	144	4
B.1.1.11	Engineering and computer graphics	2-3	180	5
B.1.1.12	Strength of materials	3-4	216	6
B.1.1.13	Materials science. Technology of construction materials	2	216	6
B.1.1.14	General chemical technology	4	144	4
B.1.1.15	Organic chemistry	3	180	5
B.1.1.16	Electrical engineering and electronics	6	144	4
B.1.1.17	Metrology, standardization and certification	5	108	3
B.1.1.18	Life safety	7	108	3
B.1.1.19	Physical culture	1	72	2
	Variable part			
B.1.2.1	History of science and technology	2	72	2
B.1.2.2	Business communication in a foreign language	4	108	3
B.1.2.3	Professional-oriented communication in a foreign language	5	108	3
B.1.2.4	Evaluation of the project's economic efficiency	8	72	2
B.1.2.5	Law science	6	108	3

B.1.2.6	Theoretical mechanics	2	72	2
B.1.2.7	Additional chapters of organic chemistry	4	108	3
B.1.2.8	Additional chapters of physical chemistry	4	144	4
B.1.2.9	Equipment in composite materials and coatings technology	8	144	4
B.1.2.10	Computer science	1-2	216	6
B.1.2.11	Fundamentals of chemical and oil production technology	5	144	4
B.1.2.12	Methods of materials and coatings research	8	144	4
B.1.2.13	Economics of enterprise	6	72	2
B.1.2.14	Processes and apparatus of chemical technology	5-6	324	9
B.1.2.15	Heat engeneering	5	108	3
B.1.2.16	Control systems of chemical-technological processes	7	108	3
	Elective courses			
B.1.3.1.1	Psychology	1	108	3
B.1.3.1.2	Engineering psychology	/1	/108	/3
B.1.3.2.1	Russian language and speech culture	2	72	2
B.1.3.2.2	Russian for business and professional communication	/2	/72	/2
B.1.3.3.1	Physics and chemistry of materials	5	144	4
B.1.3.3.2	Solid state physics and chemistry	/5	/144	/4
B.1.3.4.1	Polymer materials science	6	144	4
B.1.3.4.2	Polymer composite materials	/6	/144	/4
B.1.3.5.1	Theoretical electrochemistry	5	180	5
B.1.3.5.2	Fundamentals of electrochemistry	/5	/180	/5
B.1.3.6.1	Functional electroplating	7	144	3
B.1.3.6.2	Electrochemical coatings	/7	/144	/3
B.1.3.7.1	Environmental technologies of composite materials and coatings	7	72	2
B.1.3.7.2	Environmental problems of the chemical and oil industry	/7	/72	/2
B.1.3.8.1	Macromolecular chemistry	5	180	5
B.1.3.8.2	Chemistry and physics of polymers	/5	/180	/5
B.1.3.9.1	Electrochemical technology	6	144	4
B.1.3.9.2	Electrochemical production of chemical	/6	/144	/4

	products			
B.1.3.10.1	Corrosion and corrosion protection of metals	7	108	3
B.1.3.10.2	Anti-corrosion materials and coatings	/7	/108	/3
B.1.3.11.1	Mathematical modeling of chemical and technological processes	8	108	3
B.1.3.11.2	Mathematical modeling and optimization of heat and mass transfer processes	/8	/108	/3
B.1.3.12.1	Durability of machines and apparatus	7	72	2
B.1.3.12.2	Repair and installation of equipment	/7	/72	/2
B.1.3.13.1	Fundamentals of polymer composite materials technology	8	144	4
B.1.3.13.2	Basic principles of polymer composite materials production	8	/144	/4
B.1.3.14.1	Polymer processing technology	7	108	3
B.1.3.14.2	Polymer processing methods	7	/108	/3
B.1.3.15.1	Priority trends in composite materials and coatings technology	7	144	4
B.1.3.15.2	Actual problems of composite materials and coatings technology	/7	/144	/4
B.1.3.17.1/ B.1.3.17.2	Team sports / Sports and recreation activities	2-6	/328	0
	Practice (the variable part)			
B.2.1	Training practice	2	108	3
B.2.2	1st Industrial practice	4	216	6
B.2.3	2nd Industrial practice	6	216	6
B.2.4	Industrial practice (research work)	8	108	3
B.2.5	Training practice	8	216	6
B.3	**The state final examination (the basic part)**	8	324	9
	Total		**8640**	**240**