

Speciality Program: Nuclear power plants: design, operation and engineering

Field of Studies: Design and operation of nuclear power plants

Years of Studies: 5

Language of Training: Russian

№	Subject	Semester	Hours	Credits
C.1.1	Mandatory part of Block 1			
C.1.1.1	History	1,2	144	4
C.1.1.2	Philosophy	5	108	3
C.1.1.3	Foreignlanguage*	1-4	360	10
C.1.1.4	The rule of law and modernity	1	72	2
C.1.1.5	Psychology**	4	72	2
C.1.1.6	Highermathematics	1-5	1188	32
C.1.1.7	Physics	1-6	1080	30
C.1.1.8	Computerscience	1,2	216	6
C.1.1.9	Engineeringandcomputergraphics	2,3	180	5
C.1.1.10	Materials science (materials of nuclear reactors)	7	72	2
C.1.1.11	Lifesafety	10	108	3
C.1.1.12	Strengthofmaterials	3	144	4
C.1.1.13	Machine parts and design basics	4	108	3
C.1.1.14	ElectricalandElectronics	4,5	252	7
C.1.1.15	Theory of Probability and Mathematical Statistics	3	108	3
C.1.1.16	Equationsofmathematicalphysics	5,6	252	7
C.1.1.17	Theoreticalmechanics	4	144	4
C.1.1.18	Quantummechanics	6	108	3
C.1.1.19	Physicsofnuclearreactors	6	72	2
C.1.1.20	Neutrontransfertheory	5	72	2
C.1.1.21	TechnicalThermodynamics	5	108	3
C.1.1.22	Statisticalphysics	6	108	3
C.1.1.23	Basics of heat and mass transfer	7	72	2
C.1.1.24	DiscreteMath	6	72	2
C.1.1.25	AutomationBasics	6	72	2
C.1.1.26	Fieldtheory	5	144	4
C.1.1.27	Hydrodynamics	7	144	4
C.1.1.28	PhysicsofDefense	7	108	3
C.1.1.29	NPP technologyandequipment	7	108	3
C.1.1.30	The dynamics of nuclear reactors	7	180	5
C.1.1.31	PhysicalCultureandsport	1	72	2
C.1.2	VariablepartofBlock 1			
C.1.2.1	Chemistry	1,2	216	6
C.1.2.2	Ecology	8	72	2
C.1.2.3	Economy***	3	108	3
C.1.2.4	Metrology, standardizationandcertification	7	72	2
C.1.2.5	Fundamentals of thermodynamics of nuclear power plant cycles and thermal power plants	6	144	4
C.1.2.6	Nuclearpowerreactors	8,9	324	9
C.1.2.7	Heat and mass transfer in nuclear power plants	9	180	5
C.1.2.8	Fundamentals of radiation monitoring at nuclear power plants	9	108	3
C.1.2.9	Reliabilityof NPP equipment	10	180	5
C.1.2.10	Modes of operation and operation of NPP equipment	10	180	5
C.1.2.11	NuclearPowerPlants	9,10	324	9
C.1.2.12	Repair and installation of NPP equipment	8	144	4
C.1.2.13	Steam generators and heat exchangers	7,8	324	9
C.1.2.14	Turbomobile NPP	8,9	324	9
C.1.2.15	Algorithmization and modeling of NPP work processes	9	144	4
C.1.2.16	Automation of NPP control systems	10	216	6
C.1.2.17	Water treatment at nuclear power plants	8	144	4
C.1.2.18	Economicsofnuclearenergy	9,10	252	7
C.1.3	Disciplinesofchoice			
C.1.3.1.1	Fundamentals of Engineering Design and CAD of NPPs	4	144	4
C.1.3.1.2	Automated design of technological equipment for nuclear power	4	144	4

	plants			
C.1.3.1.3	Militarytraining	4	144	4
C.1.3.2.1	Environmental impact of nuclear power plants	5	144	4
C.1.3.2.2	Environmental technology at nuclear power plants	5	144	4
C.1.3.2.3	Militarytraining	5	144	4
C.1.3.3.1	Thermomechanical and auxiliary equipment of nuclear power plants	6	180	5
C.1.3.3.2	Auxiliary technological systems of nuclear power plants	6	180	5
C.1.3.3.3	Militarytraining	6	180	5
C.1.3.4.1	Water-chemical regimes at nuclear power plants	7	180	5
C.1.3.4.2	Organization and monitoring of water regimes of nuclear power plants	7	180	5
C.1.3.4.3	Militarytraining	7	180	5
C.1.3.5.1	NPP electricalequipment	8	108	3
C.1.3.5.2	Electrical part of the nuclear power plant	8	108	3
C.1.3.5.3	Militarytraining	8	108	3
C.1.3.6.1	Gamesports	2-6	328	
C.1.3.6.2	Improvingphysicaleducation	2-6	328	
C.2.1	MandatorypartofBlock 2			
C.2.1.1	Educational (fact-finding) practice	2	108	3
C.2.1.2	Educational (research) practice	4	108	3
C.2.1.3	Educational (design and technological) practice	6	108	3
C.2.1.4	Undergraduatepractice	11	756	21
C.2.2	VariablepartofBlock 2			
C.2.2.1	Production (design and technological) practice	8	108	3
C.2.2.2	Production (operational) practice	10	108	3
C.2.2.3	Researchwork	11	108	3
C.3	State final certification (basic part)			
C.3.1	Preparation for protection and protection of WRC		216	6
	Total		12208	330
F.	Optionaldisciplines			
F.1	Militarytraining	8	252	
F.2	Construction and installation of equipment for nuclear power plants	7	72	
F.3	Computer-aided design systems for the technological equipment of nuclear power plants	4	72	
F.4	MilitaryTraining 01	4-8	843	
F.5	Militarytraining 01 (finalcertification)	8	252	
	Generalindicators			
	Numberofcourseprojects			3
	Numberoftermpapers			8
	The number of RGR			0
	Numberofexams			35
	The number of offsets			54

* C.1.1.3 "Russian as a foreign language" for foreign students

** The module "Social Entrepreneurship" is included in the work program for the discipline

*** The module "Technological Entrepreneurship" is included in the work program for the discipline