CHEMISTRY

ANNOTATION
TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION
For specialties

6-05-0714-02 Mechanical engineering technology, metal-cutting machines and equipment
Profiling Engineering technology
Equipment and technologies of highly efficient metal processing processes
Technological equipment of machine-building production
6-05-0714-03 Engineering and technical design and production of materials and products from them
Profiling Equipment and technology of welding production
6-05-0715-03 Cars, tractors, mobile and technological complexes
Profiling Computer engineering in lifting and transport engineering
Computer engineering in construction and road engineering
Computer engineering in the automotive industry
6-05-0715-07 Operation of ground transport and technological machines and complexes
Profiling Technological operation of cars
Car service
6-05-0713-04 Automation of technological processes and productions
Profiling Automated electric drives
Automation of technological processes and productions in mechanical engineering
7-07-0732-01 Construction of buildings and structures
Profiling Industrial and civil engineering
Highways
6-05-0732-02 Real estate expertise and management
6-05-0716-03 Information and measuring devices and systems
Profiling Information systems and technologies of non-destructive testing and diagnostics

Distribution of academic discipline by semesters
For specialties
6-05-0714-02 Mechanical engineering technology, metal-cutting machines and tools
6-05-0714-03 Engineering and technical design and production of materials and products from them

	Form of higher education	
	Full-time (full-time)	Correspondence
Course	1	1
Term	2	2
Lectures, hours	34	8
Laboratory classes, hours	16	4
Practical classes, hours	16	4
Exam, semester	2	2
Classroom hours for the academic discipline	66	16
Independent work, hours	42	92
Total hours of academic discipline /credits	108/3	108/3

For specialties
6-05-0713-04 Automation of technological processes and productions
7-07-0732-01 Construction of buildings and structures

	Form of higher education	
	Full-time (full-time)	Correspondence
Course	1	1
Term	1	2
Lectures, hours	34	6
Laboratory classes, hours	16	4
Practical classes, hours	16	4
Exam, semester	2	2
Classroom hours for the academic discipline	66	16
Independent work, hours	78	128
Total hours of academic discipline /credits	144/4	144/4

For specialties

6-05-0715-07 Operation of ground transport and technological machines and complexes
6-05-0732-02 Real estate expertise and management
6-05-0716-03 Information measuring devices and systems
6-05-0715-03 Cars, tractors, mobile and technological complexes

	Form of higher education
	Full-time (full-time)
Course	1
Term	1
Lectures, hours	34
Laboratory classes, hours	16
Practical classes, hours	16
Exam, semester	1
Classroom hours for the academic discipline	66
Independent work, hours	78
Total hours of academic discipline /credits	144/4

1 The content of the discipline includes sections: basic concepts and laws of chemistry, atomic structure, Periodic system of chemical elements chemical bonding, complex compounds, energy of chemical processes, rate of chemical reactions, chemical equilibrium, dispersed systems, electrolytic dissociation, ion exchange reactions, salt hydrolysis, solutions of nonelectrolytes, redox reactions, galvanic cells, electrolysis, corrosion of metals, protection of metals from corrosion.

2 As a result of mastering the academic discipline , the student must

to know: the basics of the structure of substances and the frequency of changes in the properties of elements; chemical properties of metals and the main classes of inorganic substances, the most common ways of obtaining them; patterns of chemical reactions and the periodic law as the basis of the systematics of inorganic substances;

be able to: use the thermodynamic characteristics of substances and reactions when choosing the conditions for the implementation of technological processes; use knowledge about the properties of substances and methods of their production when choosing raw materials and ensuring the environmental safety of technological processes;

have the skill: knowledge of methods for determining the thermodynamic characteristics of substances and reactions when choosing the conditions for the implementation of technological processes; knowledge of methods for analyzing experimental data, methods for obtaining raw materials that ensure the environmental safety of technological processes.

3. Formed competencies:

Codes of formed competencies	The name of the formed competencies
6-05-0716-03 Information and measuring devices and systems	

Profiling Information systems and technologies of non-destructive testing and diagnostics	
SK-24	Use the basic concepts of the laws of chemistry, the principles of experimental and theoretical study of chemical phenomena and processes , apply the knowledge gained to solve problems of theoretical and practical orientation
7-07-0732-01 Construction of buildings and structures **Profiling** Industrial and civil engineering Highways	
BOD-1	Apply knowledge of natural science academic disciplines to solve applied engineering and construction tasks
6-05-0715-07 Operation of ground transport and technological machines and complexes **Profiling** Technological operation of cars Car service	
BPC-1	Apply knowledge of natural science academic disciplines for experimental and theoretical study, analysis and solution of applied engineering problems
6-05-0713-04 Automation of technological processes and productions **Profiling** Automated electric drives Automation of technological processes and productions in mechanical engineering	
BOD-1	To use the laws of natural disciplines in professional activity
CC-2	Solve standard tasks of professional activity based on the use of information and communication technologies
6-05-0732-02 Real estate expertise and management	
BOD-1	Use the basic concepts of laws and methods of mathematics, chemistry and physics for data processing and performing engineering and economic calculations
6-05-0714-02 Mechanical engineering technology, metal-cutting machines and equipment **Profiling** Engineering technology Equipment and technologies of highly efficient metal processing processes Technological equipment of machine-building production	
CC-2	Solve standard tasks of professional activity based on the use of information and communication technologies
BOD-1	Apply knowledge about the basics of higher mathematics, physics, chemistry, computer science in engineering activities for the design and technological support of mechanical assembly production
BOD 1.4	Possess the theoretical provisions of chemistry to explain the chemical properties and transformations of substances.
6-05-0714-03 Engineering and technical design and production of materials and products from them **Profiling** Equipment and technology of welding production	
BOD-3	Possess the theoretical provisions of chemistry to explain the chemical properties and transformations of substances
6-05-0715-03 Cars, tractors, mobile and technological complexes **Profiling** Computer engineering in lifting and transport engineering Computer engineering in construction and road engineering Computer engineering in the automotive industry	
BOD-3	To use the theoretical provisions of chemistry, the technique of chemical calculations and the method of chemical experimental studies, to predict the properties of compounds based on the structure of the substance, the nature of chemical and intermolecular interaction

4 Forms of current attestation – protection of an individual assignment, the form of intermediate attestation – examination.