

CHEMISTRY

ANNOTATION TO THE CURRICULUM OF HIGHER EDUCATION INSTITUTIONS

by specialty
6-05-0715-03 Cars, tractors, mobile and technological complexes
Profiling Computer engineering

	Form of higher education
	Full-time (day)
Course	1
Semester	2
Lectures, hours	34
Laboratory classes, hours	16
Practical lessons, hours	16
Exam, semester	2
Classroom hours in academic discipline	66
Independent work, hours	78
Total hours per academic discipline/ credit units	144/4

1 The content of the academic discipline includes sections: basic concepts and laws of chemistry, atomic structure, Periodic table of chemical elements, chemical bonds, complex compounds, energetics of chemical processes, rate of chemical reactions, chemical equilibrium, dispersed systems, electrolytic dissociation, ion exchange reactions, hydrolysis of salts, non-electrolyte solutions, 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

know: the basics of the structure of substances and the frequency of changes in the properties of elements; chemical properties of metals and main classes of inorganic substances, the most common methods of their preparation; patterns of chemical reactions and the periodic law as the basis for the systematics of inorganic substances;

be able to: use the thermodynamic characteristics of substances and reactions when choosing conditions for implementing 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: mastery of methods for determining the thermodynamic characteristics of substances and reactions when choosing conditions for implementing technological processes; knowledge of methods for analyzing experimental data, methods of obtaining raw materials that ensure the environmental safety of technological processes.

3. Competencies being developed:

Name of the formed competencies
Use the theoretical principles of chemistry, the technique of chemical calculations and the method of chemical experimental research, predict the properties of compounds based on the structure of the substance, the nature of chemical and intermolecular interactions

4 Forms of current certification - defense of an individual assignment, form of intermediate certification - exam.