Subject Platform		
Full name of the discipline: ***Chemistry1,2***		
Subject Code: UNK11208	Credits allocated to the subject (ECTS): 4; 4.	Duration: 1,2 semesters
Department: General Chemistry		
The subject is for students of the directions: For all educational fields		
Subject lecturers: Nabiev Abdurakhim Abdukhamidovich, Jalilov Abdukhalil, Mamajanov Makhamadadil Mamajanovich, Shamadinova Nargis Erkinovna, Atamuratova Malohat Shovkatovna, Akhmedov Mansur Eshmamatovich, Tukhtamusheva Anisa Ubayevna, Otaboev Khusan Abdusobirovich,		
Total hours allocated to the subject: 240 hours	Email: nabievabdurakhim5@gmail.com jalilovabdukhalil@mail.ru odilmamajonov5927@gmail.com atamurodovam1987@gmail.com nargissamadinova@gmail.com	
Teacher (s): Atamuratova Malohat Shovkatovna, Shamadinova Nargis Erkinovna, Sidikova Gulchehra Abdujalolovna, Saparboyev Suroj, Ziyoyev Bayoniddin, Ahmadjonov Ulug'bek, Davronova Nornisa, Otaboyev Husan		
Prerequisites: Compulsory subject. Students should have theoretical knowledge of the subject and understanding of laboratory work.		
Brief Summary of the Subject: General and Inorganic Chemistry1,2 reveals the general laws of chemical processes in nature, and these laws, in turn, are practically used in other sciences and in the field of technology. In general and inorganic chemistry, substances, their properties, occurrence in nature, methods of obtaining, and areas of application are studied.		

Objective of the discipline: The main purpose of studying general and inorganic chemistry1,2 is to familiarize future technologists with the basic fundamental laws of science and to understand the course of these chemical processes when working in their specialty in the future.

At the end of the course, students will acquire the following skills and abilities:

The purpose of the discipline is described on the basis of this syllabus. They will have an understanding of the types, structure, and genetic relationships of inorganic substances, as well as their physical and chemical properties, and will be familiar with their applications.

Lecture classes

Lectures consist of the formation of a methodological and scientific approach to the chemical laws of technical and technological processes, as well as a scientific worldview through theoretical knowledge, practical skills. Lectures are conducted in large-capacity classrooms equipped with multimedia devices.

Practical exercises

Instructions and recommendations, a set of problems on the organization of practical classes are developed by the professors and teachers of the department. It provides students with methods for solving practical problems and examples on the main lecture topics, as well as problems for independent solution. Textbooks, educational and methodological manuals, lecture texts, handouts, and electronic materials are used in mastering practical classes. Practical classes will be conducted separately for each academic group in an auditorium equipped with multimedia devices. Classes are conducted using active and interactive methods.

Laboratory classes

Laboratory classes are aimed at developing practical skills and abilities by testing the knowledge (basic chemical laws) acquired by students in theoretical and practical classes. Laboratory classes are conducted in specially equipped rooms assigned to the department.

Independent learning

Students prepare presentations, group developments, and abstracts on topics for independent study.

No	Subject topics UNK1	Hours Distribution			
		lecture	practical	laboratory	TMI
1.	Introduction to the subject "General and Inorganic Chemistry 1." Basic concepts of chemistry.	2.			40.
2.	Important classes of inorganic substances and stoichiometric laws.	2.	4.	4.	8.
3.	Theories of atomic structure	2.	2.		
4.	Modern periodic table of elements	2.			8.
5.	Molecular structure and chemical bonding	2.			
6.	Thermochemical processes.	2.	2.		
7.	Kinetics and equilibrium of chemical reactions.	2.		2.	8.
8.	Formation of solutions and their concentrations	2.	2.	2.	
9.	Theories of acid-base and salt dissociation. Hydrolysis of salts. pH. Ionic product of water	2.		2.	
10.	General properties of metals. Galvanic cells.	2.			
11.	Oxidation-reduction reactions and potentials.	2.	2.		
12.	Electrolysis processes. Corrosion of metals and methods of its prevention.	2.		2.	8.

	Total:	**24.**	**12.**	**12.**	**72.**

No	Subject topics UNK2	Hour Distribution			
		lecture	practical	laboratory	TMI
1.	Classification and nomenclature of coordination compounds.	**2.**	**2.**	**2.**	**40.**
2.	General properties of Group I,II elements	**4.**	**2.**	**2.**	**8.**
3.	General Properties of Group XIII Elements of the Periodic Table	**2.**	**2.**		
4.	Properties of elements of the fourteenth group of the periodic table of elements	**2.**		**2.**	**8.**
5.	Properties of elements of the fifteenth group of the periodic table of elements	**2.**	**2.**	**2.**	
6.	Properties of elements of the sixteenth group of the periodic table of elements	**2.**			
7.	Properties of the elements of the seventeenth group of the periodic table.	**4.**	**2.**	**2.**	**8.**
8.	Properties of the elements of the sixth and seventh groups of the periodic table.	**2.**			
9.	Properties of elements of groups 8, 9, 10 of the periodic table of elements	**2.**	**2.**	**2.**	
10.	Environmental pollution prevention	**2.**			
	Total:	**24.**	**12.**	**12.**	**72.**

Main literature

1. Akhmerov Q. Jalilov A. Sayfuddinov R. Akbarov A., Turobjonov S.M. "General and Inorganic Chemistry." TextbookT. Uzbekistan 2017. 390 p.
2. Akhmerov Q. Jalilov A. Sayfuddinov R. Akbarov A., Turobjonov S.M. "General and Inorganic Chemistry." TextbookT. Uzbekistan 2006. 471 p.
3. Sh.S.Arslanov, Sh.A.Mutalov, V.S.Ribalchenko. Fundamentals of General and Inorganic Chemistry. Textbook.- T. Science and Technology.2019.-p.354.
4. Theodore L. Brown et al. CHEMISTRY is the central science. United States of America, (Urbana Chanmpaign).
5. P.W. Atkins, T.L. Overton, J.P. Rourke, M.T. Weller, and F.A. Armstrong "Inorganic Chemistry" 6th edition©2014 W. H. Freeman and Company 41 Madison Avenue New

York, NY 10010

6. Gary L. Miessler, St. Olaf College, Paul J. Fischer, Macalester College "Inorganic chemistry" - Fifthedition ©2014 Pearson.
7. Akhmetov N.S. "Laboratory and Seminar Classes in General and Inorganic Chemistry" Textbook. M.: "Higher School" 1988.-303p.
8. A.B. Vorobyeva. General and Inorganic Chemistry. Volume 1. Theoretical Foundations of Chemistry. Moscow ICS "Akademkniga"2004, p544.
9. Axmerov Q.M., Turobjonov S.M., Saparov S.Y. Laboratory Exercises in General and Inorganic Chemistry. Textbook T. Uzbekistan 2019. 248 p.

Web sites

1.https://phet.colorado.edu
2. https://phet.colorado.edu/en/simulation/legacy/microwaves3.
https://phet.colorado.edu/en/simulation/build-an-atom4.
https://phet.colorado.edu/en/simulation/legacy/hydrogen-atom.5.
https://phet.colorado.edu/en/simulation/legacy/build-a-molecule.6.
https://phet.colorado.edu/en/simulation/blackbody-spectrum.7.
https://phet.colorado.edu/en/simulation/legacy/beta-decay8.
https://phet.colorado.edu/en/simulation/legacy/covalent-bonds.

Contact hours*: You can contact the teacher based on the following schedule for completing independent study assignments, presenting them, and asking questions about necessary information and various materials:

No	Day	Time	Room
1.	Monday	2:00 PM - 4:00 PM	M.U.-41 315
2.	Thursday	2:00 PM - 4:00 PM	M.U.-41 315