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**LECTURE COURSE SYLLABUS IN GENERAL AND INORGANIC CHEMISTRY**  
**For First-Year Students in Pharmacy**  
**Academic 2023/2024**

<b>Subjects</b>	<b>Hours</b>
1. The early history of chemistry. Fundamental chemical laws. Dalton's atomic theory. Early experiments to characterize the atom	3
2. Geiger-Marsden experiment. Rutherford-Bohr model. Quantum mechanical model of the atom. Heisenberg uncertainty principle. De Broglie theory. Schrödinger equation	3
3. Distribution of electrons in the electron shell of the atom. Atomic structure and periodicity. The history of the Periodic Table. Periodic trends in chemical properties of the main group elements: ionization energy, electron affinity, atomic and ionic radii, electronegativity	3
4. <i>Colloquium 1</i> Chemical bonding. General concepts. Types of chemical bonds. The views of Kossel and Lewis. Chemical bond characteristics. VSEPR model.	3
5. Valence bond theory. Hybridization of atomic orbitals: Examples. Delocalized bonds.	3
6 Intermolecular forces. Hydrogen bonding. Crystal structure. Types of crystals	3
7. Coordination compounds. General characteristics. Nomenclature. Isomerism	3
8. Solutions. Solubility	3
9. Dissociation of water. Acids and bases. Neutralization and hydrolysis	3
10. <i>Colloquium 2</i>	3
11. s-Elements. Hydrogen. Periodic table group 1 elements (group IA)	3
12. Periodic table group 2 elements (group IIA). p-Elements. Periodic table group 13 elements (group IIIA).	3
13. p-Elements. Periodic table group 14 elements (group IVA). Periodic table group 15 elements (group VA). Periodic table group 16 elements (group VIA).	3
14. Periodic table group 17 elements (group VIIA). Periodic table group 18 elements (group VIIIA).	3
15. Transition metals <i>Colloquium 3</i>	3

Head of Department: .....  
(Prof. Kiril Gavazov, PhD)

Total: 45 hours