

FACULTY OF MEDICINE, UNIVERSITY OF NIS**Study program:** Medicine**Subject:** Chemistry in medicine**Semester:** Second**Year of study:** First**CURRICULUM - THEORETICAL LECTURES – FIRST SEMESTER 2019/20.**

Week	Lecture topics	Lecturer	N° classes weekly
1.	Structure of the atom. Periodic table of elements. Laws of chemical bonding.	Prof. Dr. Slavica Sunarić	2
2.	Chemical bonds (ionic & covalent). Coordinate covalent bond. Hydrogen bond. Van der Waals' forces. London forces (special focus on interactions of organic compounds).	Prof. Dr. Slavica Sunarić	2
3.	Types of inorganic compounds (oxides, hydrides, bases, acids, amphoteric electrolytes). Salts.	Prof. Dr. Slavica Sunarić	2
4.	Chemical thermodynamics. Chemical kinetics. Chemical balance.	Prof. Dr. Slavica Sunarić	2
5.	La Chatelier's principle. Solutions. Concentration of solutions.	Prof. Dr. Slavica Sunarić	2
6.	Electrolytic dissociation. Arrhenius, protolytic, and Lewis theory of acids and bases. Chemical balance in the solution of weak electrolytes. Ionic concentrations. Kw.	Prof. Dr. Slavica Sunarić	2
7.	Acid and base solutions. Concentration of H ⁺ and OH ⁻ ions in aqueous solutions. Solubility product. Ionic reactions. Neutralization. Hydrolysis of salts.	Prof. Dr. Slavica Sunarić	2
8.	Buffers. Colligative properties of solutions.	Prof. Dr. Slavica Sunarić	2

9.	Oxidoreductions. Oxidoreductions in biosystems.	Prof. Dr. Jelena Lazarević	2
10.	Intro to organic chemistry.	Prof. Dr. Jelena Lazarević	2
11.	Hybridization. Isomerism of organic compounds.	Prof. Dr. Jelena Lazarević	2
12.	Hydrocarbons.	Prof. Dr. Jelena Lazarević	2
13.	Halogeni derivatives of hydrocarbons.	Prof. Dr. Jelena Lazarević	2
14.	Oxygen containing compounds: alcohols, phenols and ethers.	Prof. Dr. Jelena Lazarević	2
15.	Aldehydes and ketons. The nature of carbonyl compounds.	Prof. Dr. Jelena Lazarević	2