


**Federal State Budgetary Educational Institution of Higher Education
«North-Ossetia State Medical Academy» of the Ministry of Healthcare of the Russian
Federation**

Department of biological chemistry

Approved

Head of the department,
associate professor

 A. E. Gurina
" 06 " February 2023 year.

Calendar-thematic plan of practical classes

Discipline of biological chemistry- biochemistry of the oral cavity

Course 1

Dentistry faculty _____

for the spring semester 2022-2023 school year

№	Date	The title of the topic	hours
1.	14.02.23	Introductory lesson. Proteinogenic amino acids: structure, properties, classification. The role of oxy-amino acids in the formation of connective tissue proteins.	2
2.	14.02.23	Chemistry of simple proteins, structural organization of a protein molecule. Physico-chemical properties of simple proteins.	2
3.	21.02.23	Chemistry of complex proteins: classification, representatives, characteristics of prosthetic groups.	2
4.	21.02.23	Glycoproteins, their role in the formation of bone and tooth tissue. Proteoglycans and glycosaminoglycans of oral cavity tissues.	2
5.	28.02.23	Structure and properties of collagen proteins of oral cavity tissues. Collagen, structure, biosynthesis.	2
6.	28.02.23	Structure and properties of noncollagen proteins of oral cavity tissues. Adhesive and anti-adhesive proteins.	2
7.	07.03.23	Module for the topic: "Chemistry and functions of proteins".	2
8.	07.03.23	Structure and general properties of enzymes. The mechanism of enzymatic catalysis. Classification of enzymes.	2
9.	14.03.23	Vitamins as coenzymes. Water-soluble vitamins.	2
10.	14.03.23	Regulation of enzymes activity. Enzymes activators and inhibitors. Medical aspects of enzymology.	2
11.	21.03.23	Module for the topic: "Enzymes".	2
12.	21.03.23	Lipid composition of biological membranes. Structure and classification of lipids. Transmembrane transfer of substances, signal transmission into the cell.	2
13.	28.03.23	Fat-soluble vitamins. Participation in the formation of oral cavity tissues.	2
14.	28.03.23	Reactive oxygen species. Lipid peroxidation. Its role in norm and pathology.	2
15.	04.04.23	Energy exchange. Biological oxidation. Oxidative phosphorylation.	2
16.	04.04.23	Tricarboxylic acid cycle. Determination of succinate dehydrogenase activity.	2
17.	11.04.23	Module for the topic: "Energy exchange, common ways of catabolism"	2
18.	11.04.23	Structure, properties and functions of carbohydrates. Digestion of carbohydrates in the gastrointestinal tract.	2

19.	18.04.23	Anaerobic oxidation of glucose: glycolysis, stages, the concept of glycolytic oxidoreduction.	2
20.	18.04.23	Aerobic glycolysis: direct oxidation of glucose.	2
21.	25.04.23	Aerobic glycolysis: indirect oxidation of glucose. The pentose cycle and its biological significance.	2
22.	25.04.23	Regulation of blood glucose. Synthesis and mobilization of glycogen in the liver. Gluconeogenesis.	2
23.	02.05.23	Disorders of carbohydrate metabolism: diabetes mellitus. Glycogenoses.	2
24.	02.05.23	Module for the topic: "Metabolism of carbohydrates".	2
25.	16.05.23	Digestion and absorption of lipids in the gastrointestinal tract: conditions, factors. Characteristics of the stages.	2
26.	16.05.23	Metabolism of higher fatty acids: oxidation and biosynthesis.	2
27.	23.05.23	Ketone body metabolism: biosynthesis and catabolism. Determination of ketone bodies in urine.	2
28.	23.05.23	The exchange of simple and complex lipids: TAG and phospholipids.	2
29.	30.05.23	Cholesterol metabolism. Quantitative determination of cholesterol in blood serum. Transport forms of lipids. Pathology of lipid metabolism.	2
30.	30.05.23	Module for the topic: "Lipid metabolism".	2

Assistant of the department
Glavins Kaitukova D.I.
 "06" *February* 2023 year.