

Discussed and confirmed
on the methodical council
of the department
May 19, 2022

HISTOLOGY INDEPENDENT WORK
for students of Faculty of Dentistry, 1st year,
Autumn semester. Academic year 2022-2023.

№	Topic	Amount of hours	Terms of exploring
1	History of Histology, Cytology and Embryology. Histology in Ukraine. Modern histological technique.	3	
2	Microscope. Microscopic devices. Histological techniques.	3	
3	Modern methods of histological investigations.	3	
4	Intercellular junctions, their types, intercellular interaction.	3	
5	Chromatin and Chromosomes. Morphology and chemical structure. Karyotype. Ploidy.	3	
6	Life and cell cycle, their characteristics. Apoptosis, its biological and medical meaning. Cell aging and cell death.	3	
7	Conception of extracorporal fertilization, its medical and social meaning.	3	
8	Cloning of animals. Fertilization <i>in vitro</i> , morphological aspects of embryonic transplantation.	3	
9	Law of rise and evolution of tissues. Differentiation, determination, regeneration.	3	
10	Human blood picture in the norm and white blood cells count. Age-related changes of Blood. Lymph characteristics.	3	
11	Embryonic hemopoiesis (development of blood). Peculiarities of yolk sac and hepatic hemopoiesis. Modern model of hemopoiesis.	3	
12	Postembryonic hemopoiesis. Conception of colonies-making units.	3	
13	Histogenesis, regeneration and age changes of cartilage.	6	
14	Osteogenesis and regeneration of bone.	6	
15	Molecular mechanisms of muscle fiber contraction.	3	
16	Cytophysiology of conducting system of the heart.	3	

In total

54 hours.

**Chief of the Department
of Histology and Embryology
Assoc. Prof.**

Iлона Chelpanova, M.D, PhD

**Deputy for Academic work,
Assoc. Prof.**

Olga Yuzych, PhD