

Discussed and confirmed  
on the methodical council of the department  
January 14, 2022.

**HISTOLOGY INDEPENDENT WORK**  
**on discipline “Histology, Cytology and Embryology”**  
**for students of Faculty of General Medicine, 1<sup>st</sup> year,**  
**Spring semester. Academic year 2021-2022.**

<b>№</b>	<b>Topic</b>	<b>Amount of hours</b>
1	Histology in Ukraine. Research methods in histology. Histological techniques.	4
2	Structural bases of transport through cell membrane. Mechanisms of reception. Structural bases of cytoprotection.	6
3	Mitosis and Meiosis. Cell reaction to external stimuli.	4
4	Cleavage. Duration, localization, dark and light blastomeres. Blastocyst. Embryoblast. Embryonic stem cells.	4
5	The biological processes, which underlie the development of the embryo: induction, determination, division, cell migration, growth, differentiation, cell interaction, destruction.	6
6	<b>Preparation for final control of the Summary lesson 1.</b>	6
7	General principles of tissue organization. Epithelium as the leading component of histo-hematogenous barriers. Epithelial stem cells.	4
8	Thrombus formation. Stages and mechanisms.	4
9	Leukocytes. Mechanisms of adhesion, migration and killing of microorganisms. Interaction of blood cells and connective tissue during inflammation.	4
10	Reparation of loose connective tissue. Regulation of volume and composition of matrix of connective tissue.	6
11	Role of connective tissues with special properties in the development of autoimmune inflammatory processes.	4
12	<b>Preparation for final control of the Summary lesson 2.</b>	6
13	Articular cartilage.	4
14	Bones' rebuilding. Regeneration of bone tissue.	4
15	Muscle as organ. Muscles' regeneration. Histophysiology of locomotor apparatus.	4
16	Nerve endings. Nervous-muscle spindles.	6
17	<b>Preparation for final control of the Summary lesson 3.</b>	6
18	Development of cardiovascular system. Morphological bases of neurohumoral regulation of blood vessels activity.	4
19	Development of endocrine glands. Diffuse endocrine system. Дифузна ендокринна система. Trans- and parapituitary regulation.	4
20	Embryogenesis of hematopoietic organs. Cellular bases of nonspecific immunity. Cellular bases of the reactions of cell-mediated and humoral immunity	4
21	<b>Preparation for summary lesson #4.</b>	6
22	Development of nervous system.	4
23	Regeneration of nerves.	4
24.	Preparation for credit lesson.	6

**In total 120 hours.**

**Chief of the Department of Histology and Embryology,**  
**Assoc.Prof.**  
**Deputy for Academic work,**  
**Assoc. Prof.**

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