



<b>1. General information</b>																	
<b>Faculty</b>	<b>Medical faculty No.2</b>																
<b>Education Programme</b>	22 Healthcare, 221 Dentistry, the 2 <sup>nd</sup> (master) level of higher education, full-time education																
<b>Academic year</b>	2023-2024																
<b>Discipline, code</b>	Histology, OK12																
<b>Department</b> <i>(name, address, phone, e-mail)</i>	Department of histology, cytology and embryology, 79010, Lviv, Pekarska Str., 52 (032) 2769373, 2368444, <a href="mailto:kaf_histology@meduniv.lviv.ua">kaf_histology@meduniv.lviv.ua</a>																
<b>Head of the Department</b>	Chelpanova I.V. MD, PhD Associate Professor <a href="mailto:chelpanova_ilona@meduniv.lviv.ua">chelpanova_ilona@meduniv.lviv.ua</a>																
<b>Academic year</b>	1																
<b>Semester</b>	I-II																
<b>Type of discipline</b>	Obligatory																
<b>Educators</b> <i>(first name, last name, academic degree, e-mail)</i>	<table border="0"> <tr> <td>Lutsyk A.D. MD, DSci, Professor</td> <td><a href="mailto:lutsyk_alexander@meduniv.lviv.ua">lutsyk_alexander@meduniv.lviv.ua</a> lutsykalexander@gmail.com</td> </tr> <tr> <td>Bilyy R.O. DSci, Professor</td> <td><a href="mailto:bilyy_rostyslav@meduniv.lviv.ua">bilyy_rostyslav@meduniv.lviv.ua</a></td> </tr> <tr> <td>Yuzych O.V. PhD, Associate Professor</td> <td><a href="mailto:nakonechna_olha@meduniv.lviv.ua">nakonechna_olha@meduniv.lviv.ua</a></td> </tr> <tr> <td>Smolkova O.V. MD, PhD, Associate Professor</td> <td><a href="mailto:smolkova_olena@meduniv.lviv.ua">smolkova_olena@meduniv.lviv.ua</a></td> </tr> <tr> <td>Chelpanova I.V. MD, PhD Associate Professor</td> <td><a href="mailto:chelpanova_ilona@meduniv.lviv.ua">chelpanova_ilona@meduniv.lviv.ua</a></td> </tr> <tr> <td>Dzhura O.R. MD, PhD, Associate Professor</td> <td><a href="mailto:dzhura_olga@meduniv.lviv.ua">dzhura_olga@meduniv.lviv.ua</a></td> </tr> <tr> <td>Dudok O.V. MD, PhD, Assistant Professor</td> <td><a href="mailto:dudok_olga@meduniv.lviv.ua">dudok_olga@meduniv.lviv.ua</a></td> </tr> <tr> <td>Dumych T.I. PhD, Assistant Professor</td> <td><a href="mailto:dumych_tetiana@meduniv.lviv.ua">dumych_tetiana@meduniv.lviv.ua</a></td> </tr> </table>	Lutsyk A.D. MD, DSci, Professor	<a href="mailto:lutsyk_alexander@meduniv.lviv.ua">lutsyk_alexander@meduniv.lviv.ua</a> lutsykalexander@gmail.com	Bilyy R.O. DSci, Professor	<a href="mailto:bilyy_rostyslav@meduniv.lviv.ua">bilyy_rostyslav@meduniv.lviv.ua</a>	Yuzych O.V. PhD, Associate Professor	<a href="mailto:nakonechna_olha@meduniv.lviv.ua">nakonechna_olha@meduniv.lviv.ua</a>	Smolkova O.V. MD, PhD, Associate Professor	<a href="mailto:smolkova_olena@meduniv.lviv.ua">smolkova_olena@meduniv.lviv.ua</a>	Chelpanova I.V. MD, PhD Associate Professor	<a href="mailto:chelpanova_ilona@meduniv.lviv.ua">chelpanova_ilona@meduniv.lviv.ua</a>	Dzhura O.R. MD, PhD, Associate Professor	<a href="mailto:dzhura_olga@meduniv.lviv.ua">dzhura_olga@meduniv.lviv.ua</a>	Dudok O.V. MD, PhD, Assistant Professor	<a href="mailto:dudok_olga@meduniv.lviv.ua">dudok_olga@meduniv.lviv.ua</a>	Dumych T.I. PhD, Assistant Professor	<a href="mailto:dumych_tetiana@meduniv.lviv.ua">dumych_tetiana@meduniv.lviv.ua</a>
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<b>Erasmus</b>	+																
<b>Person, responsible for syllabus</b>	Yuzych O.V. PhD, Associate Professor, <a href="mailto:nakonechnahisto@gmail.com">nakonechnahisto@gmail.com</a>																
<b>Quantity of ECTS credits</b>	7,5																
<b>Quantity of hours</b>	Total – 225 h Lectures – 16 h Practical classes – 96 h Individual work – 113 h																
<b>Language</b>	English																

<b>Consultations</b>	According to the schedule
<b>2. Brief review of the subject</b>	
<p>The subject of the discipline is the microscopic and ultramicroscopic structure of cells, tissues and organs of the human body. According to this, there are the following sections of the subject: <b>cytology</b> (the study of cells), <b>general histology</b>, or actually histology (the study of tissues) and <b>special histology</b> (the study of the structure of organs and their systems). Embryology that studies the embryo development is closely related to histology whereas the structures of the body are studied in the process of their origin and development. Embryology, like cytology, is now separate from histology and is an independent science. However, in the medical course of higher education they are combined into one subject with histology.</p>	
<b>3. Aim and goals of the subject</b>	
<p>1. The aim of the study is to obtain the knowledge of the microscopic structures and ultramicroscopic structure of the human body, its development and changes in the different conditions of life.</p> <p>2. The ultimate goals of the discipline:</p> <ul style="list-style-type: none"> <li>• Study of the molecular and structural bases of functioning and regeneration of cells and their derivatives</li> <li>• Study of the basics of adaptation, reactivity and maintenance of homeostasis</li> <li>• Determination of adaptive and regenerative capabilities of organs taking into account their tissue composition, features of regulation and age changes.</li> <li>• Interpretation of the regularities of human embryonic development, regulation of morphogenesis</li> <li>• Determination of critical periods of embryogenesis, defects and anomalies of human development</li> </ul> <p>3. Competencies and studying process results (general and special (professional)).</p> <p><b>General competencies (3K)</b></p> <ol style="list-style-type: none"> <li>1. Ability to abstract thinking, analysis and synthesis.</li> <li>2. Ability to learn and become proficient in modern knowledge.</li> <li>3. Ability to apply knowledge in practical situations.</li> <li>4. Knowledge and understanding of the subject area and understanding of professional activity.</li> <li>5. Ability to adapt and act in a new situation.</li> <li>6. Ability to make informed decisions</li> <li>7. Ability to work in a group.</li> <li>8. Interpersonal skills.</li> <li>9. Definiteness and perseverance in terms of assigned tasks and responsibilities.</li> </ol> <p>According to the requirements of the standard, the discipline provides students with the acquisition of <i>competencies</i>:</p> <ul style="list-style-type: none"> <li>– <i>integral</i>: Ability to solve typical and complicated specialized tasks and practical problems in the learning process, which involves research and / or innovation. It is characterized by complexity and uncertainty of conditions and requirements.</li> <li>– <i>general</i>: <ul style="list-style-type: none"> <li>– Ability to apply knowledge of histology, cytology and embryology in practical situations</li> <li>– Knowledge and understanding of the subject area of histology, cytology and embryology</li> <li>– Ability to select a communication strategy; ability to work in a team; interpersonal skills</li> <li>– Ability to communicate in the native language in both oral and written form; ability to communicate in a foreign language</li> <li>– Ability to use of information and communications technologies</li> </ul> </li> </ul>	

- Ability to abstract thinking, analysis and synthesis, ability to learn and be modernly trained.
- Ability to evaluate and ensure the quality of performed work

### Special competencies

ΦK1. Ability to collect medical information about the patient and analyze clinical data.

ΦK2. Ability to interpret the results of laboratory and instrumental research.

## 4. Preliminary requirements

1. Medical biology
2. Human anatomy

## 5. Program results of the course

Learning outcomes: Be able to evaluate information on the diagnosis based on the histological tests of biological material of the patient in the health care institution or its unit; use knowledge about the person, his organs and systems based on the results of laboratory tests.

### Results

Code of the learning outcomes	The content of the learning outcomes	Matrix of competencies
<i>3H – knowledges YM – skills AB – independence and responsibility K – competencies</i>		
<b>3H-1</b>	To know and understand the structure and functions of cells and tissues acquired in the learning process.	ΠΠ-1 ΠΠ-2
<b>3H-2</b>	To have in-depth knowledge of histology taking into account the structure of the professional activity.	ΠΠ-1 ΠΠ-2
<b>3H-3</b>	To know the tactics and strategies for working with microslides.	ΠΠ-1 ΠΠ-2
<b>3H-4</b>	To have a deep knowledge of the relationship between morphology and cell function.	ΠΠ-1 ΠΠ-2
<b>3H-5</b>	To have a deep knowledge in the field of information and communication technologies used in professional activities and in histological research.	ΠΠ-1 ΠΠ-2
<b>3H-6</b>	To know the methods of analysis, synthesis and further modern learning.	ΠΠ-1 ΠΠ-2
<b>3H-7</b>	To know the responsibilities and ways to perform the tasks.	ΠΠ-1 ΠΠ-2
<b>3H-8</b>	To have specialized knowledge about the person, his organs and systems, to know standard protocols of the laboratory and histological tests.	ΠΠ-1 ΠΠ-2
<b>YM-1</b>	Be able to establish a logical relationship between the structure of the histological object and its functions.	ΠΠ-1 ΠΠ-2

<b>YM-2</b>	Be able to carry out professional activities that require updating and integration of knowledge.	PIP-1 PIP-2
<b>YM-3</b>	Be able to choose methods and strategies for assessing of morphological structures.	PIP-1 PIP-2
<b>YM-4</b>	Be able to set aim and goals; be persistent and conscientious in the performance of duties.	PIP-1 PIP-2
<b>YM-5</b>	Be able to analyze the results of laboratory tests and histological specimens and based on these results to evaluate information on the probable diagnosis of the patient.	PIP-1 PIP-2
<b>K-1</b>	The ability to apply knowledge of histology, cytology and embryology in practical situations.	PIP1 PIP2
<b>K-2</b>	Knowledge and comprehension of the subject area of histology, cytology and embryology	PIP-2
<b>K-3</b>	The ability to choose a communication strategy; ability to work in a group; interpersonal skills	PIP-2
<b>K-4</b>	The ability to use tools of information and communication technology in the study of microscopic structures, cells and tissues, organs and organ systems.	PIP-1
<b>K-5</b>	The ability to evaluate the results of laboratory and histological tests.	PIP-1
<b>AB-1</b>	Be responsible for decision-making in controversial cases.	PIP-1
<b>AB-2</b>	Be responsible for professional development, the ability to further training with a high level of autonomy.	PIP-2
<b>AB-3</b>	Be responsible for the selection and tactics of analysis of histological specimens.	PIP-2
<b>AB-4</b>	Be responsible for the timely acquisition of modern knowledge.	PIP-1
<b>AB-5</b>	Be responsible for the quality of the tasks.	PIP-1
<b>AB-6</b>	Be responsible for the prescription and evaluation of the results of laboratory tests.	PIP-1

<b>AB-7</b>	Be responsible for the decision on the evaluation of the results of laboratory examination.	IIP-1 IIP-2		
<b>6. Course format</b>				
Course format	<b>Full-time</b>			
Type of classes	Number of hours	Number of groups		
Lectures	<b>20</b>			
Practical	<b>120</b>			
Seminars	-			
Individual	<b>70</b>			
<b>7. Topics and content of the course</b>				
<p><b>The organization of the educational process is carried out according to the credit-transfer system.</b></p> <p>The program of the discipline is structured for 2 semesters which include blocks of sections.</p> <p><b><u>Module 1. Cytology, general histology and embryology</u></b></p> <p>Section 1. Cytology. Section 2. Embryology. Section 3. General histology.</p> <p><b><u>Module 2. Special histology and embryology</u></b></p> <p>Section 4. Histology and embryology of the regulatory and sensory systems. Section 5. Histology and embryology of the internal organs. Section 6. Histology and embryology of the reproductive system. Medical embryology.</p>				
Code type of classes	Topic	Content	Code of the learning outcomes	Educator
JI-1	Introduction to Histology, Cytology and Embryology. cytology. organelles and inclusions. nucleus of the cell. cell division. cell aging and cell death.	To present the lecture using multimedia support. To determine the problematic issues. To provide answers to the questions.	3H-1, 3H-5, 3H6, YM-1, YM-2, YM-3, YM-4, YM-5, YM-7	Assoc. Prof. Chelpanova I.V.
JI-2	The basics of general embryology. development of higher mammals and human development.	To present the lecture using multimedia support. To determine the problematic issues. To provide answers to the questions.	3H-1, 3H-5, 3H7, 3H-8, , YM-1, YM-2, YM-3, YM-4, YM-5, YM-8, AB-1, AB-3	Assoc. Prof. Chelpanova I.V.
JI-3	Concept of Tissues. Covering and Glandular Epithelium. Tissues of internal environment. Morphology of Blood.	To present the lecture using multimedia support. To	3H-1, 3H-5, 3H 7, YM-1, YM2, YM-	Assoc. Prof. Chelpanova I.V.

		determine the problematic issues. To provide answers to the questions.	3, УМ-4, УМ-5, УМ-8, АБ-2	
Л-4	Special tissues. Muscular and Nervous tissues.	To present the lecture using multimedia support. To determine the problematic issues. To provide answers to the questions.	ЗН-1, ЗН-6, УМ1, УМ-2, УМ-3, УМ-4, УМ-5, К1	Assoc. Prof. Chelpanova I.V.
Л-5	Cardiovascular system.	To present the lecture using multimedia support. To determine the problematic issues. To provide answers to the questions.	ЗН-1, ЗН-2, ЗН3, ЗН-4, ЗН-8, УМ-1, УМ-3, УМ-4, УМ-5, УМ-6, УМ-7, УМ-8, К-2	Assoc. Prof. Chelpanova I.V.
Л-6	General characteristics of digestive system. Organs of oral cavity. Structure of the lip. The tongue. Soft and hard palate. Tonsils.	To present the lecture using multimedia support. To determine the problematic issues. To provide answers to the questions.	ЗН-1, ЗН-5, ЗН6, УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, УМ-7	Assoc. Prof. Chelpanova I.V.
Л-7	Teeth. Odontogenesis. Sources, stages and the course of development of teeth. Teeth' structure. Dental tissues, their distribution by anatomical parts. Age related changes of teeth.	To present the lecture using multimedia support. To determine the problematic issues. To provide answers to the questions.	ЗН-1, ЗН-5, ЗН7, ЗН-8, , УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, УМ-8, АБ-1, АБ-3	Assoc. Prof. Chelpanova I.V.
Л-8	Glands, associated with digestive system. Large salivary glands. Liver and pancreas. General morphofunctional characteristics.	To present the lecture using multimedia support. To determine the problematic issues. To provide answers to the questions.	ЗН-1, ЗН-5, ЗН 7, УМ-1, УМ2, УМ-3, УМ-4, УМ-5, УМ-8, АБ-2	Assoc. Prof. Chelpanova I.V.

<p>II-1</p>	<p>Introduction into Histology, Embryology and Cytology. Modern methods of morphological investigation. Microscope. Microscopical techniques.</p>	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.</p>	<p>3H-1, 3H-2, 3H3, 3H-4, 3H-8, YM-1, YM-3, YM-4, YM-5, YM-6, YM-7, YM-8, K-2</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>
<p>II-2</p>	<p>General structure of the cell. Biological membranes. Cell membrane Cytoplasm. Organelles and Inclusions.</p>	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.</p>	<p>3H-1, 3H-5, 3H6, YM-1, YM-2, YM-3, YM-4, YM-5, YM-7</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>
<p>II-3</p>	<p>Cell Nucleus. Cell division and cell differentiation. Cell aging and death. Signal systems in the cell.</p>	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To</p>	<p>3H-1, 3H-2, 3H3, 3H-4, 3H-5, , YM-1, YM-3, YM-4, YM-5, YM-6,</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof.</p>

		<p>solve the situational tasks.</p> <p>5. To explain the morphology of histological structures based on the specimens.</p> <p>6. Students work with light microscopes.</p> <p>7. Clarification of problematic issues summarizing the lesson.</p>	УМ-8, К-2	<p>Smolkova O.V., Assoc. Prof.</p> <p>Dzhura O.R., Assist. Prof.</p> <p>Dudok O.V., Assist. Prof.</p> <p>Dumych T.I.</p>
П-4	<p>Early human embryogenesis. Fertilization, Cleavage. Gastrulation. Histo- and organogenesis. Critical periods of embryogenesis. Implantation, formation of placenta, extraembryonic organs.</p>	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.</p>		<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>
П-5	<p>Summary lesson №1. Cytology and Embryology.</p>	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. Students work with light microscopes. 6. Clarification of problematic issues</p>	<p>ЗН-1, ЗН-5, ЗН11, УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, АБ-2</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>



		summarizing the lesson.		
II-6	General histology. Sources of development and general principles of tissues organization. Epithelial tissues. Glandular epithelium.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	3H-1, 3H-2, Y <sub>M</sub> 1, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, K-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-7	Tissues of internal environment. Morphology of blood and lymph. Hematopoiesis.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	3H -1, 3H - 5, 3H - 11, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -8, AB - 2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-8	Tissues of internal environment. Connective tissue proper. Connective tissues with special properties.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-	3H-1, 3H-2, 3H3, 3H-4, 3H-5, 3H-10, Y <sub>M</sub> -1, Y <sub>M</sub> -3,	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof.

		control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	УМ-4, УМ-5, УМ-6, УМ-7, К-2	Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-9	Skeletal connective tissues – cartilage and bone.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	ЗН-1, ЗН-2, ЗН3, ЗН-4, ЗН-8, УМ-1, УМ-3, УМ-4, УМ-5, УМ-6, УМ-7, УМ-8, К-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-10	Special tissues. Muscular tissue.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based	ЗН-1, ЗН-6, УМ1, УМ-2, УМ-3, УМ-4, УМ-5, К1	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof.

		<p>on the specimens.</p> <p>6. Students work with light microscopes.</p> <p>7. Clarification of problematic issues summarizing the lesson.</p>		Dumych T.I.
II-11	Special tissues. Nervous tissue.	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.</p>	<p>3H-1, 3H-2, 3H3, 3H-4, 3H-8, YM-1, YM-3, YM-4, YM-5, YM-6, YM-7, YM-8, K-2</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>
II-12	Summary lesson №2. Special tissues.	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the</p>	<p>3H-1, 3H-5, 3H6, YM-1, YM-2, YM-3, YM-4, YM-5, YM-7</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>

		lesson.		
П-13	Nervous system. Central nervous system. Peripheral nervous system.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	ЗН-1, ЗН-5, ЗН7, ЗН-8, , УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, УМ-8, АВ-1, АВ-3	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
П-14	The Eye.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	ЗН-1, ЗН-5, ЗН 7, УМ-1, УМ2, УМ-3, УМ-4, УМ-5, УМ-8, АВ-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
П-15	The Ear.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry	ЗН-1, ЗН-6, УМ1, УМ-2, УМ-3, УМ-4, УМ-5, К1	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V.,

		<p>out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.</p>		<p>Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>
II-16	Summary lesson № 4. Nervous and sensory systems.	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. Students work with light microscopes. 6. Clarification of problematic issues summarizing the lesson.</p>	<p>3H-1, 3H-2, 3H3, 3H-4, 3H-8, YM-1, YM-3, YM-4, YM-5, YM-6, YM-7, YM-8, K-2</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>
II-17	Cardio-vascular system.	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic</p>	<p>3H-1, 3H-5, 3H6, YM-1, YM-2, YM-3, YM-4, YM-5, YM-7</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>

		issues summarizing the lesson.		
II-18	Endocrine system.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	3H-1, 3H-5, 3H7, 3H-8, YM-1, YM-2, YM-3, YM-4, YM-5, YM-8, AB-1, AB-3	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-19	Immune organs.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	3H-1, 3H-5, 3H7, 3H-8, YM-1, YM-2, YM-3, YM-4, YM-5, YM-8, AB-1, AB-3	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-20	Skin and its derivatives. Morphological bases of skin, deep and visceral sensitivity.	1. To check the learning of questions from the lesson plan. 2. To discuss the	3H-1, 3H-5, 3H11, YM-1, YM-2, YM-3,	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V.,

		<p>questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.</p>	<p>УМ-4, УМ-5, АВ-2</p>	<p>Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>
II-21	<p>Summary lesson №1. Regulatory systems of human organism.</p>	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.</p>	<p>ЗН-1, ЗН-2, ЗН3, ЗН-4, ЗН-5, УМ-1, УМ-3, УМ-4, УМ-5, УМ-6, УМ-8, К-2</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.</p>
II-22	<p>Oral cavity. Structure of the lip. The tongue. Hard and soft palate. Palatine tonsils.</p>	<p>1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological</p>	<p>ЗН-1, ЗН-5, ЗН 7, УМ-1, УМ2, УМ-3, УМ-4, УМ-5, УМ-8, АВ-2</p>	<p>Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V.,</p>

		structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.		Assist. Prof. Dumych T.I.
II-23	Teeth. Odontogenesis. Sources, stages of tooth development and progress. Teeth' structure. Large Salivary Glands.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	ЗН-1, ЗН-5, ЗН11, УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, АБ-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-24	Pharynx, Esophagus, Stomach. Glands of stomach. Histophysiology of digestion.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues	ЗН-1, ЗН-2, ЗН3, ЗН-4, ЗН-5, ЗН-7, УМ-1, УМ-3, УМ-4, УМ-5, УМ-6, УМ-7, , К-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.



		summarizing the lesson.		
II-25	General structure of Intestine. Morphological differences in structure of intestinal wall of small and large intestine.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	3H-1, 3H-2, 3H3, 3H-4, 3H-8, YM-1, YM-3, YM-4, YM-5, YM-6, YM-7, YM-8, K-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-26	Digestive glands: liver and pancreas.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	3H-1, 3H-5, 3H6, YM-1, YM-2, YM-3, YM-4, YM-5, YM-7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-27	Summary lesson № 2. Digestive system.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-	3H-1, 3H-5, 3H6, YM-1, YM-2, YM-3, YM-4,	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof.

		control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	УМ-5, УМ-7	Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-28	Morphofunctional characteristics of Respiratory Organs.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	ЗН-1, ЗН-5, ЗН6, УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, УМ-7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-29	Urinary system. Histophysiology of phases of urine formation.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based	ЗН-1, ЗН-5, ЗН6, УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, УМ-7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof.

		on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.		Dumych T.I.
II-30	Male Reproductive system. General characteristics. Functions. Principles of regulation.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the lesson.	ЗН-1, ЗН-5, ЗН6, УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, УМ-7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
II-31	Female Reproductive system. General characteristics. Ovarian-menstrual cycle: phases, regulation.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Students work with light microscopes. 7. Clarification of problematic issues summarizing the	ЗН-1, ЗН-5, ЗН6, УМ-1, УМ-2, УМ-3, УМ-4, УМ-5, УМ-7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.

		lesson.		
П-32	Summary lesson № 3. Special Histology and Embryology of Respiratory, Urinary and Reproductive systems. Final lesson.	1. To check the learning of questions from the lesson plan. 2. To discuss the questions for self-control. 3. Carry out the test. 4. To solve the situational tasks. 5. To explain the morphology of histological structures based on the specimens. 6. Clarification of problematic issues summarizing the lesson.		Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-1	History of Histology, Cytology and Embryology. Histology in Ukraine.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-2, 3H3, 3H-4, 3H-8, YM-1, YM-3, YM-4, YM-5, YM-6, YM-7, YM-8, K-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-2	Microscope. Microscopic devices. Histological techniques.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-6, YM1, YM-2, YM-3, YM-4, YM-5, YM-7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-3	Modern methods of histological investigations.	Preparation of answers to the list of questions.	3H-1, 3H-6, YM1, YM-2,	Prof. Lutsyk A.D., Prof. Bilyy R.O.,

		Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -7	Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-4	Intercellular junctions, their types, intercellular interaction.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3 <sub>H</sub> -1, 3 <sub>H</sub> -6, Y <sub>M</sub> 1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-5	Chromatin and Chromosomes. Morphology and chemical structure. Karyotype. Ploidy.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3 <sub>H</sub> -1, 3 <sub>H</sub> -4, Y <sub>M</sub> 1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -6, Y <sub>M</sub> -7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-6	Life and cell cycle, their characteristics. Apoptosis, its biological and medical meaning. Cell aging and cell death.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3 <sub>H</sub> -1, 3 <sub>H</sub> -6, Y <sub>M</sub> 1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof.

				Dudok O.V., Assist. Prof. Dumych T.I.
CPC-7	Conception of extracorporal fertilization, its medical and social meaning.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-6, Y <sub>M</sub> 1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-8	Cloning of animals. Fertilization vitro, morphological aspects of embryonic transplantation.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-5, 3H7, 3H-8, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -8, AB-1, AB-3	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-9	Law of rise and evolution of tissues. Differentiation, determination, regeneration.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-5, 3H7, 3H-8, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -8, AB-1, AB-3	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-10	Human blood picture in the norm and white blood cells count. Age-related changes of Blood. Lymph characteristics.	Preparation of answers to the list of questions. Preparation of answers to questions for self-	3H-1, 3H-5, 3H7, 3H-8, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4,	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof.

		control. Preparation of creative tasks for the topic.	Y <sub>M</sub> -5, Y <sub>M</sub> -8, AB-1, AB-3	Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-11	Embryonic hemopoiesis (development of blood). Peculiarities of yolk sac and hepatic hemopoiesis. Modern model of hemopoiesis.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	ЗН-1, ЗН-5, ЗН7, ЗН-8, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -8, AB-1, AB-3	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-12	Postembryonic hemopoiesis. Conception of colonies-making units.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	ЗН-1, ЗН-6, Y <sub>M</sub> 1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-13	Histogenesis, regeneration and age changes of cartilage.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	ЗН-1, ЗН-5, ЗН11, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, AB-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.

CPC-14	Osteogenesis and regeneration of bone.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-5, 3H11, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, AB-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-15	Molecular mechanisms of muscle fiber contraction.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-2, Y <sub>M</sub> 1, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, K-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-16	Cytophysiology of conducting system of the heart.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H -1, 3H - 5, 3H - 11, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -8, , AB - 2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-17	Development of the sense organs. Histophysiology of accommodation, dioptric and photosensory apparatuses of the eyeball. Cytological structures of statokinetic and acoustic systems.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for	3H-1, 3H-2, 3H3, 3H-4, 3H-5, 3H-10, Y <sub>M</sub> -1, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -6,	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V.,



		the topic.	УМ-7, К-2	Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-18	Cytological features of receptor structures of the skin, their role in the peripheral nervous system.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-2, 3H3, 3H-4, 3H-8, УМ-1, УМ-3, УМ-4, УМ-5, УМ-6, УМ-7, УМ-8, К-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-19	Development of oral cavity and organs of digestive system. Embryonic sources and mechanisms of formation of the dental-maxillary apparatus.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-5, 3H 7, УМ-1, УМ2, УМ-3, УМ-4, УМ-5, УМ-8, AB-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-20	Structural bases of digestion. Neurohumoral regulation of digestion.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-6, УМ1, УМ-2, УМ-3, УМ-4, УМ-5, К1	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-21	Gut-associated lymphoid tissue.	Preparation of answers to the list of questions.	3H-1, 3H-2, 3H3, 3H-4, 3H-	Prof. Lutsyk A.D., Prof. Bilyy R.O.,

		Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	8, Y <sub>M</sub> -1, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -6, Y <sub>M</sub> -7, Y <sub>M</sub> -8, K-2	Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-22	Development of digestive glands. Regulation of secretory activity and regeneration of digestive glands	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3 <sub>H</sub> -1, 3 <sub>H</sub> -2, Y <sub>M</sub> 1, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, K-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-23	Endocrine apparatus of digestive glands. Morphological peculiarities of different types of islet cells of pancreas.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3 <sub>H</sub> -1, 3 <sub>H</sub> -5, 3 <sub>H</sub> - 11, Y <sub>M</sub> -1, Y <sub>M</sub> -2, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -8, , AB - 2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-24	Preparation for Summary lesson 2. Digestive system.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3 <sub>H</sub> -1, 3 <sub>H</sub> -2, 3 <sub>H</sub> 3, 3 <sub>H</sub> -4, 3 <sub>H</sub> -5, 3 <sub>H</sub> -10, Y <sub>M</sub> -1, Y <sub>M</sub> -3, Y <sub>M</sub> -4, Y <sub>M</sub> -5, Y <sub>M</sub> -6, Y <sub>M</sub> -7, , K-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof.

				Dudok O.V., Assist. Prof. Dumych T.I.
CPC-25	Development of respiratory system. Neurohumoral regulation of mucociliary apparatus and bronchial tone.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-2, 3H3, 3H-4, 3H-8, YM-1, YM-3, YM-4, YM-5, YM-6, YM-7, YM-8, K-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-26	Development of urinary system. Structural bases of urine concentration.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-5, 3H6, YM-1, YM-2, YM-3, YM-4, YM-5, YM-7	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-27	Development of organs of male reproductive system. Structural and molecular criteria of the diagnostics of male infertility.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	3H-1, 3H-5, 3H 7, YM-1, YM2, YM-3, YM-4, YM-5, YM-8, AB-2	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-28	Development of organs of female reproductive system. Regulation of ovarian menstrual cycle. Cervix of uterus.	Preparation of answers to the list of questions. Preparation of answers to questions for self-	3H-1, 3H-5, 3H 7, YM-1, YM2, YM-3, YM-4, YM-5,	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof.

		control. Preparation of creative tasks for the topic.	УМ-8, AB-2	Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.
CPC-29	Endometrial receptivity and mechanisms of implantation. Mechanisms of placental development. Regularities of organogenesis.	Preparation of answers to the list of questions. Preparation of answers to questions for self-control. Preparation of creative tasks for the topic.	ЗН-1, ЗН-6, УМ1, УМ-2, УМ-3, УМ-4, УМ-5, К1	Prof. Lutsyk A.D., Prof. Bilyy R.O., Assoc. Prof. Chelpanova I.V., Assoc. Prof. Yuzych O.V., Assoc. Prof. Smolkova O.V., Assoc. Prof. Dzhura O.R., Assist. Prof. Dudok O.V., Assist. Prof. Dumych T.I.

### 8. Verification of results

#### Current control

*Current control is performed during the studying classes and is aimed at checking the mastering by students the learning material. Forms of current control should be standardized and include control of theoretical and practical training. The final grade for the current educational activity is set on a 4-point (traditional) scale.*

Learning outcome code	Kind of class code	The method of learning outcomes verification	Criteria of evaluation
3H-1	Л-1-7;; П-1-12,, CPC-1-19		
3H-2	Л-1, Л-2, Л-3, Л-4, Л-5, П-1, П-2, П3, П-4, П-5, CPC-1, CPC-2, CPC-3, CPC-4, CPC-5, , CPC-9, CPC-10, CPC-11, CPC-12, CC-13, CPC-14, CPC-15	Attending lectures and practical classes. Preparation of written tasks (tests, questions for self-control, situational tasks). Display of microscopy results of specimens in sketchbooks during the practical classes. Participation in discussions.	For successful passing of the discipline it is necessary to: fully comply with the requirements of the working program; find a correct solution to tasks both during classroom work and those offered for independent study.
3H-3	Л-2, Л-3, П-2, П-4, П5, CPC-3, CPC-24, CPC-5, CPC6, CPC7, CPC-8, CPC-9, CPC-10, CPC-21		

3H-5	Л-3, Л-4, Л-5, П-1, П-3, П-4, П-5, CPC-5, CPC-6		
3H-6	Л-3, П-3, CPC-5, CPC-6		
3H-7	Л-5, П-5, CPC-9, CPC-12, CPC-13, CPC-14		
3H-8	Л-1, Л-2, Л-3, Л-4, Л-5, П-1, П-2, П3, П-4, П-5, CPC-1, CPC-2, CPC6, CPC-7, CPC-8, CPC-9, CPC-10, CPC-11, CPC-12, CPC-13, CPC-14, CPC-15		
<b>YM-1</b>	Л-1, Л-2, Л-3, Л-4, Л-10, П-11, П-12, П13, П-4, П-5, CPC-1, CPC-2, CPC-3, CPC-4, CPC-5, CPC6, CPC-11, CPC-12, CPC-22		
<b>YM-2</b>	Л-1, П-1, П-2, П-3, П-4		
<b>YM-3</b>	Л-3, Л-4, Л-5, П-1, П-3, П-4, П-5, CPC-5, CPC-6, CPC-7, CPC-8, CPC-9		
<b>YM-4</b>	Л-1, Л-2, Л-3, Л-4, Л-5, П-1, П-2, П3, П-4, П-5, CPC-1, CPC-2, CPC-8		
<b>YM-5</b>	Л-2, Л-3, Л-4, Л-5, П-2, П-3, П-4, П5, CPC-8, CPC-9, CPC-10, CPC-11		
		<p>Attending lectures and practical classes. Preparation of written tasks (tests, questions for self-control, situational tasks). Display of microscopy results of specimens in sketchbooks during the practical classes. Participation in discussions.</p>	<p>For successful passing of the discipline it is necessary to: fully comply with the requirements of the working program; find a correct solution to tasks both during classroom work and those offered for independent study.</p>

AB-1	Л-1, Л-2, Л-3, Л-4, Л-5, П-1, П-2, П3, П-4, П-5, CPC-1, CPC-2, CPC-3, CPC-4, CPC-5, CPC-11, CPC-12, CPC-13, CPC-14, CPC-15	<p>Attending lectures and practical classes. Preparation of written tasks (tests, questions for self-control, situational tasks). Display of microscopy results of specimens in sketchbooks during the practical classes. Participation in discussions.</p>	<p>For successful passing of the discipline it is necessary to: fully comply with the requirements of the working program; find a correct solution to tasks both during classroom work and those offered for independent study.</p>
AB-2	Л-3, Л-4, Л-5, П-1, П-3, П-14, П-15, CPC-15, CPC-16, CPC-17, CPC-18, CPC-19		
AB-3	Л-3, П-3, CPC-5, CPC-6		
AB-4	Л-5, П-5, CPC-9, CPC-10, CPC-12, CPC-12, CPC-13, CPC-14		
AB-5	Л-1, Л-2, Л-3, П-22, П-23, П24, П-4, П-5, CPC-1, CPC-2, CPC-23, CPC-24, CPC-25		
AB-6	Л-1-7;, П-1-12,, CPC-1-19		
AB-7	Л-2, Л-3, Л-14, Л-15, П-2, П-33, П-4, П5, CPC-3, CPC-24, CPC-5, CPC6, CPC7, CPC-8, CPC-9, CPC-10		
K-1	Л-3, Л-4, Л-5, П-1, П-3, П-4, П-5, CPC-5, CPC-6, CPC-7, CPC-8, CPC-9	<p>Attending lectures and practical classes. Preparation of written tasks (tests, questions for self-control, situational tasks). Display of microscopy results of specimens in sketchbooks during the practical classes. Participation in discussions.</p>	<p>For successful passing of the discipline it is necessary to: fully comply with the requirements of the working program; find a correct solution to tasks both during classroom work and those offered for independent study.</p>
K-2	Л-1, Л-2, Л-3, Л-4, Л-5, П-1, П-2, П3, П-4, П-5, CPC-1, CPC-2, CPC-3, CPC-4, CPC-5, CPC6		

K-3	П-12, П-13, П-14, П15, CPC-23, CPC-24, CPC-25, CPC26, CPC27, CPC-28, CPC-29, CPC-30		
K-4	Л-2, Л-3, Л-4, Л-5, П-22, П-23, П-24, П-25, CPC-3, CPC-24, CPC-5, CPC6, CPC7, CPC-8, CPC-9, CPC-10, CPC-21, CPC-22, CPC-23		
K-5	Л-2, Л-3, Л-14, Л-15, П-2, П-33, П-4, П5, CPC-3, CPC-24		
<b>The final control</b>			
General assessment system	Participation in the work during the semester / exam - 60% / 40% due to a 200-point scale		
Assessment scales	Traditional 4-point scale, multipoint (200-point) scale, ECTS rating scale		
Requirements for final control access	The student attended all practical lessons and received not less than 72 points for current control.		
Type of the final control	Methods of final control	Passing criteria	
Credit	Students must pass all current topics. Scores on a 4-point scale are converted into multipoint scores (200-point scale).	<i>Maximum quantity of points - 200.</i> <i>Minimum quantity of points - 120</i>	
<b>Exam evaluation criteria</b>			
Exam	<p>Totally, for the exam students can obtain from 0 to 80 points.</p> <p>The average score for the current activity is recalculated in multipoint scale for disciplines ending in an exam according to Table №2. The current points (<b>min. – 72 points; max. – 120 points</b>) are summed with the points on the exam.</p> <p><b>Exam points: 0 – 80 points.</b> (theoretical part 0-40 points; practical part 0-40 points)</p> <p><b>Theoretical part:</b> 40 multiple choice questions (MCQ) with one correct answer, composed according to topics from the</p>		<p><i>The maximum number of points that a student can score on the exam results is 80 (20 points for the correct answers from theoretical part and 60 points for the correct answers from practical part); the minimum score is 50 (50 points for the correct answers for theoretical and practical parts)</i></p>

	<p>subject special histology. Maximum quantity of points 40 (1.0 point for each test).</p> <p><b>Practical part:</b> Description of 4 histological specimens, electronic micrographs and diagrams – 4x10 points = 40 points</p> <p><b>Total quantity – 0 – 80 points (40+40).</b></p>	
<p><b>Maximum quantity of points</b>, which student can collect for the current educational activity for admission to the exam (differentiated credit) makes 120 points.</p> <p><b>Minimum quantity of points</b>, which student can collect for the current educational activity for admission to the exam (differentiated credit) makes 72 points.</p> <p><b>The calculation of the number of points</b> is made on the basis of the collected student's marks on the traditional scale during the discipline study, by calculating the arithmetic mean (AM or average), rounded to two decimal places. The obtained value is converted into points according to the scoring scale as follows:</p> $x = \frac{AM \times 120}{5}$		
<p><b>Evaluation criteria for an objective structured practical (clinical) exam/.</b> <b>Complex of practice-oriented examination</b> <b>Master's thesis</b></p>		
<p><b>9. Course policy</b></p>		
<p>The policy of the course is determined by the system of requirements for the student in the study of the discipline “Histology, Cytology and Embryology” and is based on the principles of academic integrity. Lack of references to used sources, fabrication of sources, writing off, and interference in the work of other students are examples of possible academic dishonesty. Detection of signs of academic dishonesty in the student's work is the basis for its non-enrollment by the teacher, regardless of the extent of plagiarism or deception. Literature resources may be provided by the teacher exclusively for educational purposes without the right to transfer to third parties. Students are encouraged to use other literature resources that are not provided by the recommended list.</p>		
<p><b>10. Literature</b></p>		
<p><b>Basic:</b></p> <ol style="list-style-type: none"> <li>1. Lutsyk A, Nakonechna O, Sogomonian A, Smolkova O, Dzhura O, Dudok O. Histology lab guide Cytology, embryology, general histology microscopical anatomy (training manual). Lviv, 2019.</li> <li>2. Mescher AL. Junqueira's basic histology: text and atlas. 14th ed. Lange, 2016;</li> <li>3. Gartner LP. Textbook of histology. 4th ed. Elsevier, 2017.</li> <li>4. Pawlina W, Ross MH. Histology: a text and atlas with correlated cell and molecular biology. 8th ed. Wolters Kluwer, 2020.</li> <li>5. Sadler NW. Langman's medical embryology. 12th ed. Wolters Kluwer Lippincot Williams Wilkins, 2012.</li> <li>6. Gartner L.P., Hiatt J.L. Color textbook of histology. 3rd ed. – Philadelphia, Saunders Elsevier, 2007.</li> </ol> <p><b>Additional:</b></p> <ol style="list-style-type: none"> <li>1. Moore K.L. Persaud T.V.N. The developing human: Clinically oriented embryology. 8 th ed. – Philadelphia, Saunders Elsevier, 2008.</li> <li>2. Ovalle W.K., Nahirney P.C. Netters essential histology. – Philadelphia, Saunders Elsevier, 2008.</li> <li>3. Kierszenbaum AL, Tres LL. Histology and cell biology: an introduction to pathology. 4th ed. Saunders Elsevier, 2016.</li> <li>4. Young B, O'Dowd G, Woodford P. Wheater's functional histology: a text and colour atlas. 6th ed. Churchill Livingstone, 2014.</li> </ol>		



### **11. Equipment, hardware and software resources of the discipline/ course**

- Working program of the discipline;
- Multimedia support of lectures;
- Lecture thesis from the discipline;
- Methodical recommendations for teachers;
- Educational platform Misa;
- Methodical recommendations for practical classes for students;
- Test and control tasks for practical classes;
- Questions and tasks for final control (exam)

### **12. Additional information**

#### **Responsible for the educational process at the department:**

Associate Professor Olga Yuzych.

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Compiler of Syllabus

Assoc. Prof. Yuzych O.V.

(Підпис)

Head of the Department

Assoc. Prof. Chelpanova I.V.

(Підпис)