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Информация о владельце:
ФИО: Поверинов Игорь Егорович
Должность: Проректор по учебной работе
Дата подписания: 13.07.2023 22:12:05
Уникальный программный ключ:
6d465b936eef331cede482bded6d12ab98216652b1b301501eab0

MINISTRY OF EDUCATION AND SCIENCE OF RUSSIA

**Federal State Budgetary Educational Institution
of higher education**

**«I.N. Ulianov Chuvash State University»
(FSBEI of HE «I.N. Ulianov Chuvash State University»)**

Medical Faculty

Department of General and Clinical Morphology and Forensic Medicine

«APPROVE»

Vice-rector for Academic Affairs


I.E. Poverinov

« 13 » 04 2022

**Working programs of the discipline (module)
«Патологическая анатомия / Pathological Anatomy»**

Direction of training / specialty 31.05.03 Стоматология / Dentistry
Graduate's qualification Врач-стоматолог / Dental Practitioner

Direction (profile) / specialization «Dentistry»

Form of training – очная / intramural

Course – 2, 3

Term – 4, 5

Total academic hours/credit points – 180/5

The year of beginning the training – 2022

The fundamental document for compiling the working program of the discipline (module)
Федеральный государственный образовательный стандарт высшего образования -
специалитет по специальности 31.05.03 Стоматология (приказ Минобрнауки России от
12.08.2020 г. № 984)

Approved by:

Docent, Candidate of Medical Sciences N.E.Gimaldinova

The working program was approved at the meeting of the Department of General and
Clinical Morphology and Forensic Medicine,

25.03.2022, protocol № 7

Head of the department N.N.Golubtsova

Approved by

Dean of the Medical Faculty V.N. Diomidova

Acting Head of the Educational and Methodological Department E.A. Shirmanova

1. The purpose and objectives of training in the discipline (module)

The purpose of the discipline - the study by students of the Faculty of Dentistry of the structural foundations of diseases, etiological factors, anatomical and morphological manifestations, pathomorphogenesis of diseases with the main emphasis aimed at obtaining special knowledge, in-depth study of the pathology of the orofacial region, necessary for the further development of their professional training.

The objectives of the discipline - 1. The study by dental students of cell pathology and general pathological processes, the totality of which determines the morphological manifestations of a particular disease with in-depth study of orofacial pathology;

2. Acquisition of knowledge about the etiology, pathogenesis and morphology of the disease at all stages of its development, which will contribute to the acquisition of skills of clinical and anatomical thinking, analytical generalization of diagnostic signs, correct understanding of cause-and-effect relationships, determining the outcomes and long-term consequences of diseases;

3. Formation of students' skills to use educational, scientific, popular scientific literature, the Internet to obtain up-to-date information on pathological anatomy for further professional activity; to work with magnifying equipment; to describe morphological changes in the studied macro-preparations, micro-preparations and electronograms;

4. To give histophysiological, morphological characteristics of the state of various cellular, tissue and organ structures; to visually assess and record changes in organs and tissues of the corpse, to substantiate the nature of the pathological process and its clinical manifestations; to give a conclusion about the cause of death and formulate a pathological diagnosis;

5. Mastering the skills of microscopic examination and analysis of histological preparations and electronic microphotographs; the skill of comparing morphological and clinical manifestations of the disease, methods of clinical and anatomical analysis of autopsies, examination of biopsy and surgical material, clinical interpretation of the pathological conclusion in orofacial pathology.

2. The place of practical training in the structure of the educational program of higher education

The discipline «Патологическая анатомия / Pathological Anatomy» относится к обязательной части учебного плана refers to the mandatory part in the curriculum of the educational program of higher education (hereinafter referred to as the EP of HE) in the field of training / specialty 31.05.03 Стоматология, direction (profile) / specialization of the program «Dentistry».

Previous academic disciplines (modules) and (or) practices that form the knowledge, skills and abilities necessary for training in the discipline (module):

Knowledge, skills and abilities formed as a result of training in a discipline (module) are necessary when teaching in the following disciplines (modules) and (or) practices:

3. Planned learning outcomes in the discipline (module), correlated with the planned learning outcomes

Planned learning outcomes in the discipline (module), correlated with the planned learning outcomes

Code and name of the competence	Code and name of the competence achievement	Descriptors for the indicator of competence achievement (learning)
<p>ОПК-9 Способен оценивать морфофункциональные, физиологические состояния и патологические процессы в организме человека для решения профессиональных задач / He/she is able to evaluate morphofunctional, physiological states and pathological processes in the human body to solve professional problems</p>	<p>ОПК-9.1 Способен распознавать морфофункциональные, физиологические состояния и патологические процессы в организме человека / He/she is able to recognize morphofunctional, physiological states and pathological processes in the human body</p>	<p>знать этиологию, патогенез, диагностику часто встречающихся заболеваний/ know the etiology, pathogenesis, diagnosis of common diseases уметь распознавать комплексную взаимосвязь между стоматологическим здоровьем, питанием, общим здоровьем, заболеваниями, применением лекарственных препаратов \ be able to recognize the complex relationship between dental health, nutrition, general health, diseases, and the use of medications владеть выявлением у пациентов зубочелюстных, лицевых аномалий, деформаций и предпосылок их развития, дефектов коронок зубов и зубных рядов; выявление факторов риска онкопатологии (в том числе различных фоновых процессов, предопухолевых состояний) \ possess the identification of dental, facial anomalies, deformities and prerequisites for their development, defects in the crowns of teeth and dentition in patients; identification of risk factors for oncopathology (including various background processes, precancerous conditions)</p>

<p>ОПК-9 Способен оценивать морфофункциональные, физиологические состояния и патологические процессы в организме человека для решения профессиональных задач / He/she is able to evaluate morphofunctional, physiological states and pathological processes in the human body to solve professional problems</p>	<p>ОПК-9.2 Способен анализировать морфофункциональные, физиологические состояния и патологические процессы в организме человека / He/she is able to analyze morphofunctional, physiological states and pathological processes in the human body</p>	<p>знать как обосновывать фармакотерапию пациента при основных патологических синдромах и неотложных состояниях\ know how to justify the pharmacotherapy of the patient in the main pathological syndromes and emergency conditions уметь анализировать Международную статистическую классификацию болезней и проблем, связанных со здоровьем\ be able to analyze the International Statistical Classification of Diseases and Health-related Problems владеть предоставлением медико-статистических показателей в установленном порядке\ possess the provision of medical and statistical indicators in accordance with the established procedure</p>
<p>ОПК-9 Способен оценивать морфофункциональные, физиологические состояния и патологические процессы в организме человека для решения профессиональных задач / He/she is able to evaluate morphofunctional, physiological states and pathological processes in the human body to solve professional problems</p>	<p>ОПК-9.3 Способен диагностировать морфофункциональные, физиологические состояния и патологические процессы организма человека / He/she is able to diagnose morphofunctional, physiological states and pathological processes in the human body</p>	<p>знать как диагностировать зубочелюстные деформации и аномалии зубов и челюстей; выявлять факторы риска онкопатологии (в том числе различные фоновые процессы, предопухолевые состояния)\ know how to diagnose dental deformities and anomalies of teeth and jaws; identify risk factors for oncopathology (including various background processes, precancerous conditions) уметь диагностировать по клинической картине, методам диагностики, классификации заболеваний зубов, пародонта, слизистой оболочки полости рта, губ\ be able to diagnose according to the clinical picture, diagnostic methods, classification of diseases of the teeth, periodontal, oral mucosa, lips владеть ведением медицинской документации \ own the management of medical records</p>

4. Structure, scope and content of the discipline (module)

Educational activities in the discipline (module) are carried out:

- in the form of students' face-to-face work with the teaching staff of the organization and (or) persons involved by the organization to implement the educational programs on other terms (hereinafter - contact work);

- in the form of students' independent work.

Face-to-face work can be classroom-based, extramural, as well as it can be conducted in an electronic information and educational environment (EIEE).

Learning sessions in the discipline (module) and interim assessment of students are conducted in the form of face-to-face work and in the form of students' independent work.

During learning sessions in the discipline (module) face-to-face work includes: lecture-type classes, seminar-type classes and (or) group consultations, and (or) individual work of students with the teaching staff of the organization and (or) persons involved by the organization to implement the educational programs on other terms (including individual consultations).

Legend:

Lec – lectures, Lab – laboratory work, Pr – practical classes, ICW – individual face-to-face work, IW – independent work.

4.1. Content of the discipline (module)

Section name	The section's content	Formed competences	Competence achievement indicator
Section I. General pathological anatomy.	Introduction to pathological anatomy.	ОПК-9	ОПК-9.1, ОПК-9.2, ОПК-9.3
	Dystrophy. Parenchymal dystrophy.		
	Dystrophy. Stromal vascular dystrophy.		
	Dystrophy. Mixed dystrophy.		
	Control work No. 1		
	Circulatory disorders.		
	Thrombosis. Embolism. Shock. DIC syndrome.		
	Acute inflammation.		
	Chronic inflammation.		
	Adaptation and regeneration processes.		
	Control work No. 2		
	Introduction to oncopathology.		
	Organ-specific tumors.		

Section I. General pathological anatomy.	Mesenchymal tumors.	ОПК-9	ОПК-9.1, ОПК-9.2, ОПК-9.3
	Tumors of the nervous system.		
	Diseases of the blood system. Leukemia. Lymphomas.		
	Final lesson.		
Section II. Systemic pathological anatomy.	Diseases of the cardiovascular system.		
	Rheumatic diseases.		
	Respiratory diseases		
	Diseases of the digestive system.		
Section III. Orofacial pathology	Malformations of the orofacial region		
	Diseases of the hard tissues of the tooth: non-carious lesions, caries.		
	Diseases of the pulp and periapical tissues. Gum disease, periodontal disease. Infectious and inflammatory diseases of the maxillofacial system.		
	Tumors of the maxillary system.		
FCW	Test		
	Exam		

4.2. Scope of the discipline and types of academic work

Forms of control and types of academic work	Labor intensity of the discipline (module)		
	4	5	total
1. Face-to-face work:	48,2	32,3	80,5
In-class learning in total, including:	48	32	80
Лекционные занятия (Лек)	16	16	32
Лабораторные занятия (Лаб)	32	16	48
Индивидуальная контактная работа (ИКР)	0,2	0,3	0,5
2. Independent work of the student:	23,8	30,7	54,5

3. Intermediate certification (exam) (зачет, экзамен)		3а	Эк	3а, Эк
Total:	academic hours	72	108	180
	credit units	2	3	5

№ item	The section's (theme's) name	Face-to face work, including in the electronic information and educational environment, academic hours				IW, academic hours	Total, academ ic hours	
		Lect.	Pr.	Lab.	ICW			
	Section I. General pathological anatomy.							
1	Introduction to pathological anatomy.	2		2		1,8	5,8	
2	Dystrophy. Parenchymal dystrophy.	2		2		1	5	
3	Dystrophy. Stromal vascular dystrophy.			2		2	4	
4	Dystrophy. Mixed dystrophy.	2		2		2	6	
5	Control work No. 1			2			2	
6	Circulatory disorders.	2		2		2	6	
7	Thrombosis. Embolism. Shock. DIC syndrome.			2		2	4	
8	Acute inflammation.	2		2		2	6	
9	Chronic inflammation.			2		2	4	
10	Adaptation and regeneration processes.			2		2	4	
11	Control work No. 2			2		1	3	
12	Introduction to oncopathology.	2		2		1	5	
13	Organ-specific tumors.			2		2	4	
14	Mesenchymal tumors. Tumors of the nervous system.			2		2	4	
15	Diseases of the blood system. Leukemia. Lymphomas.	4		2		1	7	
16	Final lesson.			2			2	
	Section II. Systemic pathological anatomy.							
17	Diseases of the cardiovascular system.	2		2			4	
18	Rheumatic diseases.	2		2			4	
19	Respiratory diseases	2		2			4	

20	Diseases of the digestive system.	2		2			4
	Section III. Orofacial pathology						
21	Malformations of the orofacial region	2		2		4	8
22	Diseases of the hard tissues of the tooth: non-carious lesions, caries.	2		2		4	8
23	Diseases of the pulp and periapical tissues. Gum disease, periodontal disease. Infectious and inflammatory diseases of the maxillofacial system.	2		2		8,7	12,7
24	Tumors of the maxillary system.	2		2		14	18
	FCW						
25	Test				0,2		0,2
26	Exam				0,3		0,3
Total academic hours		32		48	0,5	54,5	180

4.3. Summary of the discipline (module), structured by sections (topics)

Раздел 1. Section I. General pathological anatomy.

Тема 1. Introduction to pathological anatomy.

Лекционное занятие. Патологическая анатомия, ее содержание, задачи и методы и уровни исследования. Краткие исторические данные. Понятие о патологии клетки. Некроз. Апоптоз. Сущность понятия. Клинико-морфологическая характеристика. Особенности посмертных изменений.

Лабораторное занятие. Патологическая анатомия, ее, содержание, задачи, объекты, методы и уровни исследования. Краткие исторические данные. Патологоанатомическая служба и ее назначение в си-стеме здравоохранения. Некроз. Определение некроза как местной смерти. Понятие об апоптозе. Причины, механизм развития и морфологическая характеристика некроза. Классификация некроза. Клинико-морфологические формы некроза, их характеристика. Значение некроза и его исходов. Смерть, признаки смерти, посмертные изменения. Причины смерти. Виды смерти: естественная, насильственная и смерть от болезней (патоло-гическая). Смерть клиническая и биологическая. Механизмы умирания и признаки смерти. Посмертные изменения, их морфологическая характеристика.

Тема 2. Dystrophy. Parenchymal dystrophy.

Лекционное занятие. Дистрофии. Определение. Дистрофии как форма повреждения (альтерация). Морфологические проявления. Клеточные и внеклеточные механизмы трофики.

Лабораторное занятие. Дистрофии как выражение нарушений тканевого (клеточного) метаболизма и форма повреждения (альтерации). Морфогенетические механизмы, структурные уровни проявлений и исходы дистрофий. Общая

классификация дистрофий в зависимости от преобладания морфологических изменений в специализированных элементах паренхимы или строме (паренхиматозные, стромально-сосудистые и смешанные) по преобладанию нарушений того или иного вида обмена (белковые, жировые, углеводные, минеральные), в зависимости от влияния генетических факторов (приобретенные, наследственные) и рас-пространенности процесса (общие, местные). Паренхиматозные дистрофии: гиалиново-капельная, гидропическая, роговая. Дистрофии слизистой ротовой полости.

Тема 3. Dystrophy. Stromal vascular dystrophy.

Лабораторное занятие. Стромально-сосудистые дистрофии. Определение. Классификация дистрофии по преобладанию нарушений того или иного вида обмена (белковые, жировые, углеводные, минеральные), в зависимости от влияния генетических факторов (приобретенные, наследственные) и распространенности процесса (общие, местные). Понятие дезорганизации соединительной ткани. Амилоидоз. Гиалиноз.

Тема 4. Dystrophy. Mixed dystrophy.

Лекционное занятие. Смешанные дистрофии. Определение. Классификация. Морфологические проявления. Клеточные и внеклеточные механизмы трофики. Нарушение минерального обмена.

Лабораторное занятие. Смешанные дистрофии. Определение. Классификация дистрофии по преобладанию нарушений того или иного вида обмена (белковые, жировые, углеводные, минеральные), в зависимости от влияния генетических факторов (приобретенные, наследственные) и распространенности процесса (общие, местные). Морфологические изменения внутренних органов при нарушении минерального обмена.

Тема 5. Control work No. 1

Лабораторное занятие. Контрольная работа.

Тема 6. Circulatory disorders.

Лекционное занятие. Нарушение кровообращения. Морфология острой и хронической сердечной недостаточности. ДВС-синдром. Шок.

Лабораторное занятие. Понятие об общих и местных расстройствах кровообращения, их взаимосвязь, классификация. Артериальное полнокровие (гиперемия). Причины, виды, морфология. Венозное полнокровие общее и местное, острое и хроническое. Изменения в органах при остром венозном полнокровии, его исходы. Изменения в органах при хроническом венозном застое (хроническая сердечно -сосудистая недостаточность). Морфогенез застойного склероза. Малоокровие. Причины, виды, морфология, исходы. Кровотечение наружное и внутреннее, кровоизлияния. Причины, виды, морфология, исходы, значение. Плазморрагия. Причины, механизм развития, морфологическая характеристика. Стаз. Причины, механизм развития, виды, морфологическая характеристика, последствия стаза. Престаз, феномен сладжирования крови.

Тема 7. Thrombosis. Embolism. Shock. DIC syndrome.

Лабораторное занятие. Тромбоз. Причины, механизм формирования тромба. Местные и общие факторы тромбообразования. Тромб, его виды, морфологическая характеристика, исходы. Синдром диссеминированного внутрисосудистого

свертывания крови (ДВС-синдром). Значение тромбоза. Эмболия. Причины, виды, морфологическая характеристика, исходы и значение эмболии. Нарушение содержания тканевой жидкости. Водянка полостей. Анафилактический шок, как частая причина летального исхода в работе врача стоматолога.

Тема 8. Acute inflammation.

Лекционное занятие. Воспаление. Сущность, закономерности развития. Классификация. Экссудативное воспаление. Клинико-морфологическая и нозологическая характеристика.

Продуктивное воспаление. Гранулематозное воспаление. Клинико-морфологическая характеристика.

Лабораторное занятие. Определение. Сущность и биологическое значение воспаления. Проблема понимания местного и общего воспаления. Этиология и патогенез воспаления. Медиаторы воспаления. Кинетика воспалительной реакции. Гуморальные и нервные факторы регуляции воспаления. Воспаление и иммунитет. Аллергическое или иммунное воспаление. Морфология воспаления: альтерация, экссудация и пролиферация. Классификация воспаления. Альтеративное, экссудативное и продуктивное (пролиферативное) воспаление. Острое и хроническое воспаление. Экссудативное воспаление: его виды: серозное, фибринозное (крупозное, дифтеритическое), гнойное (флегмона, абсцесс), гнилостное, геморрагическое, катаральное, смешанное.

Тема 9. Chronic inflammation.

Лабораторное занятие. Продуктивное воспаление, его виды: междуточное (интерстициальное), гранулематозное, воспаление с образованием полипов. Причины, механизм развития, морфологическая характеристика, исходы. Гранулематоз. Кинетика гранулематоза. Гранулематозное воспаление.

Тема 10. Adaptation and regeneration processes.

Лабораторное занятие. Сущность, биологическое и медицинское значение приспособления и компенсации. Регенерация. Определение. Сущность и биологическое значение регенерации. Уровни восстановления (возмещения) структурных элементов. Клеточная и внутриклеточная формы регенерации. Механизмы регуляции. Общие и местные условия, определяющие характер течения регенераторного процесса. Морфогенез регенераторного процесса, фазы пролиферации и дифференцировки, их характеристика. Виды регенерации: физиологическая, репаративная, патологическая. Их морфологическая характеристика. Полная и неполная регенерация. Регенерационная гипертрофия. Процессы приспособления (адаптации) и компенсации. Приспособление. Определение, сущность, Виды приспособительных реакций: атрофия, гипертрофия (гиперплазия), организация, перестройка тканей, метаплазия, дисплазия. Компенсация. Определение, сущность. Виды компенсации. Склероз и цирроз. Понятие, причины, механизм развития, морфологическая характеристика. Связь склероза цирроза с хроническим воспалением. Особенности процессов адаптации в стоматологической практике.

Тема 11. Control work No. 2

Лабораторное занятие. Контрольная работа №2

Тема 12. Introduction to oncopathology.

Лекционное занятие. Опухоли. Общие положения. Этиология. Гисто- и морфогенез опухолей. Классификации. Эпителиальные опухоли. Общая характеристика. Рак, гистологические варианты. Опухоли меланинообразующей и

нервной ткани. Тератомы и тератобластомы.

Лабораторное занятие. Определение сущности опухолевого роста. Этиология опухолей. Современные теории опухолевого роста. Морфогенез и гистогенез опухолей. Предопухолевые (предраковые) состояния и изменения, их сущность, морфология. Дисплазия и рак. Понятие опухолевой прогрессии. Иммунный ответ организма на опухоль. Значение биопсии в онкологии. Строение опухоли, особенности опухолевой клетки. Рост опухоли экспансивный, ин-фильтрирующий и аппозиционный; экзофитный и эндофитный. Доброкачественные, злокачественные опухоли и опухоли с местным деструктирующим ростом. Критерии злокачественности. Метастазирование, виды, закономерности. Понятие о рецидиве. Вторичные изменения в опухолях. Доброкачественные и злокачественные опухоли в орофациальной области.

Тема 13. Organ-specific tumors.

Лабораторное занятие. Органоспецифические опухоли. Современная классификация опухолей. Принципы ее построения. Эпителиальные опухоли доброкачественные и злокачественные. Рак, его виды. Карциноид. Опухоли молочной железы. Опухоли кожи. Опухоли щитовидной железы.

Тема 14. Mesenchymal tumors. Tumors of the nervous system.

Лабораторное занятие. Мезенхимальные опухоли доброкачественные и злокачественные. Саркома, ее виды. Опухоли меланинообразующей ткани доброкачественные и злокачественные. Опухоли нервной системы и оболочек мозга: нейроэктодермальные, менингососудистые, опухоли вегетативной и периферической нервной системы.

Тема 15. Diseases of the blood system. Leukemia. Lymphomas.

Лекционное занятие. Болезни системы крови. Анемии. Патология клеток крови и костного мозга. Опухоли гемопоэтических тканей. Лейкозы. Лимфомы.

Лабораторное занятие. Понятие о болезни системы крови. Анемии. Железодефицитные анемии. Патология клеток крови и костного мозга. Опухоли гемопоэтических тканей. Лейкозы. Определение. Виды. Бластный криз. Нейролейкоз. Лейкемический провал. Белок Бенс-Джонса. Лимфолейкоз. Лимфосаркома. Лимфогранулематоз. Лимфомы. Патоморфологические изменения в органах.

Тема 16. Final lesson.

Лабораторное занятие. Итоговое занятие.

Раздел 2. Section II. Systemic pathological anatomy.

Тема 17. Diseases of the cardiovascular system.

Лекционное занятие. Diseases of the cardiovascular system. General provisions. Classification. Atherosclerosis. Hypertension. Features of clinical and morphological changes in different age periods. The concept of rheumatic diseases. Diseases of the cardiovascular system.

Лабораторное занятие. Diseases of the cardiovascular system.

Тема 18. Rheumatic diseases.

Лекционное занятие. Ревматизм. Ревматоидный артрит. Системная красная волчанка. Системная склеродермия. Этиология. Патогенез. Классификация.

Морфологические проявления. Осложнения. Причины смерти.

Лабораторное занятие. Понятие о Ревматизме. Общая характеристика всех ревматических болезней. Ревматоидный артрит: определение, патоморфологические проявления. Системная красная волчанка: определение, патоморфологические проявления. Системная склеродермия: определение, патоморфологические проявления. Этиология. Патогенез. Классификация. Морфологические проявления. Осложнения. Причины смерти.

Тема 19. Respiratory diseases

Лекционное занятие. Острые и хронические воспалительные заболевания легких. Обструктивные и рестриктивные заболевания легких. Рак легких.

Лабораторное занятие. Острые воспалительные заболевания. Острый бронхит. Причины и механизмы развития. Классификация. Морфологическая характеристика. Острые воспалительные заболевания легких (острые пневмонии). Классификация, ее принципы. Крупозная пневмония. Этиология, патогенез, патологическая анатомия. Атипичные формы. Возрастные особенности течения пневмоний: морфологические изменения, исходы, осложнения. Бронхопневмония. Этиология, патогенез, патологическая анатомия. Особенности бронхопневмонии в зависимости от характера возбудителя. Морфологическая характеристика, исходы. Обструктивные и рестриктивные заболевания легких. Хронический бронхит, бронхоэктазы, эмфизема легких, бронхиальная астма. Патологическая анатомия нозологических форм. Рак легкого. Предраковые состояния. Клинико-морфологическая характеристика. Морфология прикорневого и периферического рака легкого, характер роста, осложнения. Гистологические формы. Закономерности метастазирования.

Тема 20. Diseases of the digestive system.

Лекционное занятие. Болезни желудочно-кишечного тракта и печени.

Лабораторное занятие. Ангины. Болезни пищевода. Рак пищевода. Этиология, патогенез, Классификация. Морфологическая характеристика. Осложнения. Болезни желудка. Острый и хронический гастрит. Причины, механизм развития, морфологические формы, их характеристика. Осложнения. Язвенная болезнь желудка, двенадцатиперстной кишки. Распространение, этиология. Патогенез, его особенности при пилоро-дуоденальных и медиогастральных язвах. Патологическая анатомия в период обострения и ремиссии. Осложнения, исходы. Хроническая язва желудка как предраковое состояние. Рак желудка. Распространение, этиология, патогенез. Предраковые состояния и изменения. Современная клинико-морфологическая классификация. Морфология рака желудка с преимущественно экзо- и эндофитным характером роста. Гистологические формы. Осложнения. Закономерности метастазирования. Болезни печени и желчевыводящей системы: цирроз печени, рак печени.

Раздел 3. Section III. Orofacial pathology

Тема 21. Malformations of the orofacial region

Лекционное занятие. Пороки развития орофациальной области.

Лабораторное занятие. Пороки развития орофациальной области.

Приобретенные и врожденные пороки развития. Нарушения развития мягкого и твердого неба, верхней и нижней челюстей, нарушение формирования и расположения зубов. Нарушение прикуса. Общая клинико-патоморфологическая характеристика болезней, патогенез местных и общих изменений и их диагностическое значение.

Тема 22. Diseases of the hard tissues of the tooth: non-carious lesions, caries.

Лекционное занятие. Заболевания твердых тканей зуба: некариозные поражения, кариес.

Лабораторное занятие. Болезни твердых тканей зуба: кариес, флюороз. Общая клинико-патоморфологическая характеристика болезней, патогенез местных и общих изменений и их диагностическое значение. Воспалительные заболевания челюстей. Остит. Периостит. Остеомиелит. Кисты. Туберкулез челюстно-лицевой системы. Туберкулезная волчанка. Колликувативный туберкулез кожи. Определение первичного и вторичного туберкулеза. Опухоли зубочелюстной системы. Одонтогенные опухоли: амелобластома, аденоматоидная опухоль, карцинома. Опухоли, гистогенетически связанные с одонтогенной мезенхимой. Опухоли смешанного генеза. Доброкачественные и злокачественные опухоли челюстно-лицевой системы.

Тема 23. Diseases of the pulp and periapical tissues. Gum disease, periodontal disease. Infectious and inflammatory diseases of the maxillofacial system.

Лекционное занятие. Болезни пульпы и периапикальных тканей. Болезни десен, пародонта. Инфекционно-воспалительные заболевания челюстно-лицевой системы.

Лабораторное занятие. Болезни пульпы и периапикальных тканей зуба. Реактивные изменения пульпы. Атрофия пульпы. Острый и хронический пульпит, периодонтит, этиология, патогенез. Морфологические изменения. Болезни десен и пародонта. Общая клинико-патоморфологическая характеристика болезней, патогенез местных и общих изменений и их диагностическое значение. Воспалительные заболевания челюстей. Остит. Периостит. Остеомиелит. Кисты. Туберкулез челюстно-лицевой системы. Туберкулезная волчанка. Колликувативный туберкулез кожи. Определение первичного и вторичного туберкулеза.

Тема 24. Tumors of the maxillary system.

Лекционное занятие. Опухоли зубо-челюстной системы.

Лабораторное занятие. Опухоли зубочелюстной системы. Одонтогенные опухоли: амелобластома, аденоматоидная опухоль, карцинома. Опухоли, гистогенетически связанные с одонтогенной мезенхимой. Опухоли смешанного генеза. Доброкачественные и злокачественные опухоли челюстно-лицевой системы. Общая клинико-патоморфологическая характеристика болезней, патогенез местных и общих изменений и их диагностическое значение.

5. Educational technologies

To implement the competence-based approach in the study of the discipline (module), extensive use of active and interactive methods of conducting classes in the educational process is provided:

The constituent elements of educational technologies in the discipline "Pathological anatomy" are:

- Lectures are conducted with the use of multimedia technologies - to improve the quality of perception of the studied material;

- During laboratory classes - in the course of interactive classes, a collective discussion and analysis of specific pathomorphological processes underlying the development of diseases is carried out, the microscopic picture of various pathomorphological changes is studied on light microscopes, the description of macropreparations is used, multimedia demonstrations of educational videos, multimedia demonstrations of pathomorphological preparations, analysis of specific clinical and morphological situations (in the form of situational tasks and business games); with the independent work of students, diagnostics of biopsy and surgical pathomorphological micro- preparations is carried out; the study of pathomorphological macro-preparations with subsequent compilation of diagnostic legends, reports on individual topics of abstracts are compiled in the form of multimedia presentations, analysis of specific situations when preparing protocols of pathoanatomical autopsies;

- Controlled homework – to encourage students of the Faculty of Medicine to strive for independent work;

- Control works – for intermediate certification and assessment of the degree of assimilation of the material passed by students;

6. Forms of control and types of evaluation materials for the discipline (module)

Intermediate attestation - evaluation of intermediate and final results of training in the discipline (module).

6.1. Sample list of questions for the credit test

1. Pathological anatomy. Tasks and methods. The role of pathological anatomy in the system of practical healthcare. Functions of a pathologist in a medical institution.

2. Death. Definition, classification, postmortem changes.

3. The concept of biopsies. Definition, classification. The role of biopsy examination in the modern medical and diagnostic process.

4. General pathological processes. General characteristics. Classification. Significance for pathology.

5. Necrosis, heart attack. Definition, classification. Outcomes, meaning for the body. The concept of apoptosis is the common and distinctive features of necrosis and apoptosis. The value of apoptosis.

6. Dystrophy. Definition, causes, morphogenetic mechanisms. Classification of dystrophies.

7. Morphological characteristics of parenchymal dystrophies of protein, fat, carbohydrate, their morphogenesis, significance for the development of specific diseases. Etiology, pathogenesis, pathological anatomy, complications, causes of death.

8. Characteristics of mucoid and fibrinoid swelling. Causes, morphogenesis, morphological changes, outcomes. The concept of metachromasia and the change of tinctorial properties.

9. Hyalinosis. Definition, classification, macroscopic and microscopic changes in hyalinosis. The outcome and significance of hyalinosis.

10. Amyloidosis. Definition, structure of amyloid. Theories of the development of amyloidosis. Classification of amyloidosis, macro- and microscopic characteristics of amyloidosis.

11. Hemoglobinogenic pigments. Characteristics of hemosiderosis. Violation of bilirubin metabolism. Types of jaundice.
12. Classification of mixed dystrophies. Characteristics of proteinogenic and lipidogenic pigments.
13. Morphological characteristics of calcifications. Formation of stones in the body. General and local factors, localization, morphological characteristics.
14. Ischemia. Definition, types of ischemia, their morphological characteristics. Outcomes and significance of ischemia.
15. Venous fullness. Definition. Classification. Morphological manifestations, changes in internal organs.
16. Thrombosis. Definition, morphogenesis of thrombosis. Factors contributing to the formation of a blood clot. Types of blood clots. Outcomes and significance of thrombosis.
17. Bleeding, hemorrhages. Definition, mechanisms of bleeding. Variants of the distribution of the spilled blood in the tissues. Outcomes, the meaning of bleeding and hemorrhages.
18. Embolism. Definition, classification of embolisms, their morphological characteristics.
19. Cardiovascular insufficiency. Definition, classification. Morphological characteristics of cardiovascular insufficiency. Changes in internal organs in cardiovascular insufficiency.
20. Shock. Types of shock, stages of development. Morphological characteristics of shock.
21. DIC syndrome. The concept. Species by pathogenesis. Types of blood clots. Morphological characteristics of internal organs in DIC syndrome.
22. Inflammation. Definition, etiology, morphogenesis of inflammation.
23. General characteristics of exudative inflammation, classification of exudative inflammation. Morphological characteristics of purulent inflammation.
24. Productive inflammation. Definition, classification and morphological characteristics. The concept of granulomatous diseases. Morphological characteristics of granulomas in tuberculosis, syphilis, leprosy, scleroma.
25. The concept of sclerosis and cirrhosis. Their morphological characteristics.
26. Immunopathological processes. Pathomorphological changes in the thymus (accidental involution, hypoplasia, hyperplasia).
27. Hypersensitivity reactions. Morphological manifestations.
28. Atrophy. Definition, classification. Morphological characteristics of atrophy (general, local).
29. Hypertrophy. Definition, the difference between hypertrophy and hyperplasia. Classification of hypertrophy. Morphological characteristics of adaptive hypertrophy.
30. Regeneration of connective tissue. Classification. Clinical and morphological manifestations. Stages of angiogenesis.
31. Wound healing. Types and pathomorphological manifestations.
32. Dysregeneration. Definition. Types and mechanisms.
33. Tumors. Definition, difference from other general pathological processes. Morphogenesis of tumors. Properties of tumors. Types of tumor growth. Phases of invasive growth. Metastatic cascade, types of tumor metastasis. Precancerous diseases and conditions (metaplasia, leukoplakia, atrophic changes, hyperplasia, dysplasia).
34. Tumors. Definition. Morphological characteristics of organ-specific tumors of benign tumors from the epithelium. Types of tumors, macro- and microscopic structure.
35. Morphological characteristics of malignant tumors from the epithelium. Definition. Microscopic structure, histological forms.
36. Stomach cancer. Etiology, pathogenesis, classification, histological forms, metastasis. Complications, causes of death.

37. Lung cancer. Etiology, pathogenesis, classification, pathoanatomic characteristics. Metastasis, complications, causes of death.

38. Breast cancer. Etiology, pathogenesis, pathological anatomy. Features of metastasis.

39. Cancer of the tongue. Etiology, pathogenesis, precancerous diseases. Pathological anatomy, metastasis.

40. Anemia. Definition. Pathoanatomic characteristics of posthemorrhagic anemia. Changes in the dental-maxillary region in anemia.

41. Definition, classification of anemia. Pathological anatomy of anemia associated with impaired blood formation. Aplastic and hypoplastic anemia. Changes in the dental-maxillary region in anemia.

6.2. Sample list of questions for the examination

1. Pathological anatomy, its tasks and methods. The place of pathological anatomy in the system of practical health care. Functional duties of a pathologist in a medical and preventive institution (PC-6).

2. History of the development of pathological anatomy.

3. Death. Definition, classification. Absolute signs of death

Biopsies. Definition, classification. The role of biopsy research in the modern medical and diagnostic process.

4. Classification and characterization of general pathological processes. The importance of knowledge of general pathological processes for a practical doctor.

5. Necrosis. Definition, macroscopic and microscopic changes in necrosis. Classification of necrosis. The meaning and outcomes of necrosis. The concept of apoptosis.

6. Dystrophy. Definition, causes, morphogenetic mechanisms. Classification of dystrophies. The concept of thesaurismoses. Morphological characteristics of parenchymal protein dystrophies.

7. Morphological characteristics of parenchymal fatty dystrophies.

8. Morphological characteristics of mucoid and fibrinoid swelling.

9. Hyalinosis. Determination, macroscopic and microscopic tissue changes in hyalinosis. Classification of hyalinosis, morphological characteristics of forms of hyalinosis.

10. Stromal vascular lipidoses. Determination, macroscopic and microscopic tissue changes. Complications, outcomes.

11. Amyloidosis. Definition, structure of amyloid, classification of amyloidosis. Macro- and microscopic characteristics of amyloidosis.

12. Morphological characteristics of metabolic disorders of proteinogenic pigments.

13. Morphological characteristics of metabolic disorders of lipidogenic pigments.

14. Violation of the exchange of neutral fat in the body (obesity, weight loss).

15. Morphological characteristics of calcifications.

16. Conditions of normal blood circulation.

17. Ischemia, definition, classification. Morphological characteristics of local and general ischemia. Complications, outcomes, significance for the body.

18. Thrombosis. Definition, morphogenesis. Conditions that contribute to the formation of a blood clot.

19. PE, etiology, pathogenesis, morphological.

20. Thrombosis. Definition, types and structure of blood clots. Outcomes and significance of thrombosis.

21. DIC syndrome. Etiology, pathogenesis. Morphological characteristics of DIC syndrome.

22. Definition, classification, morphological characteristics of embolisms.

23. Bleeding, hemorrhages. Definition, pathogenetic mechanisms. Outcomes, meaning for the body.

24. Morphological characteristics of disorders of tissue fluid metabolism.

25. Shock. Definition, etiology, pathogenesis, classification. Pathological anatomy of shock.
26. Morphological characteristics of acute and chronic cardiovascular insufficiency.
27. Inflammation. Definition. Etiology. Morphogenesis of inflammation.
28. Morphological characteristics of serous and fibrinous inflammation.
29. Morphological characteristics of exudative purulent and catarrhal inflammation.
30. Morphological form of productive inflammation.
31. Morphological characteristics of sclerosis and cirrhosis.
32. Granulomatous diseases. Classification, general characteristics.
33. Morphological characteristics of atrophy.
34. Hypertrophy and hyperplasia. Definition, classification. Morphological characteristics of adaptive hypertrophy.
35. Regeneration. Definition, classification. Morphological characteristics of reparative regeneration.
36. Regeneration. Definition, morphogenesis, classification of regeneration. Factors contributing to full regeneration. Pathological regeneration. The concept of dysregeneration.
37. Wound healing.
38. Benign organ-specific tumors from the epithelium.
39. Organ-specific thyroid tumors.
40. Morphological characteristics of cancer and sarcomas.
41. Morphological characteristics of neuroectodermal tumors of the central nervous system.
42. Stomach cancer. Etiology, precancerous diseases. Pathological anatomy of stomach cancer. Metastasis, complications, outcomes, causes of death in gastric cancer.
43. Lung cancer. Etiology, pathogenesis. Pathological anatomy, features of metastasis.
44. Etiology of atherosclerosis. Morphogenesis of atherosclerosis.
45. Morphological characteristics of clinical and anatomical forms of atherosclerosis.
46. Ischemic heart disease, Classification. Acute focal ischemic myocardial dystrophy. Etiology, pathogenesis, morphological changes. Complications.
47. Coronary heart disease. Definition. Etiology, classification. Pathological anatomy of acute myocardial infarction (immediate causes, mechanisms of development, morphological changes in the heart). Complications, postinfarction syndrome, outcomes (PC-5, PC-6).
48. Hypertension Etiology, pathogenesis. Pathological anatomy of a malignant form of hypertension. Complications, causes of death (PC-5, PC-6).
49. Benign form of hypertension. Etiology, pathogenesis. Pathological anatomy, complications (PC-5, PC-6).
50. Acquired heart defects Causes and mechanisms of development. Changes in internal organs in acquired heart defects (PC-5, PC-6).
51. Cerebrovascular diseases. Definition, etiology, classification. Morphological characteristics of cerebrovascular diseases (PC-6).
52. Morphological characteristics of rheumatic diseases.
53. Pathological anatomy of cardiovascular, cerebral, nodose and polyarthritic forms of rheumatism.
54. Rheumatoid arthritis. Etiology, pathogenesis. Pathological anatomy of rheumatoid arthritis. Complications, outcomes.
55. Systemic lupus erythematosus. Etiology, pathogenesis. Pathological anatomy, complications, causes of death.
56. Scleroderma. Etiology, pathogenesis. Pathological anatomy, causes of death.
57. Croup pneumonia. Etiology, pathogenesis. Pathological anatomy of croup pneumonia. Complications, outcomes.
58. Focal bronchopneumonia. Etiology, pathogenesis, risk factors for the development

of focal bronchopneumonia. Pathological anatomy of focal bronchopneumonia.

59. Acute bronchitis. Etiology, pathogenesis, classification. Pathological anatomy. Complications.

60. Obstructive pulmonary disease. Etiology, pathogenesis. Pathological anatomy, complications.

61. Chronic bronchitis. Factors contributing to the occurrence of chronic bronchitis. Classification. Morphological manifestations.

62. Emphysema of the lungs. Etiology, pathogenesis. Pathological anatomy, complications.

63. Bronchial asthma. Etiology, pathogenesis. Pathological anatomy during an attack and in the chronic course of the disease. Complications, causes of death.

64. Bronchiectatic disease. Etiology, pathogenesis. Pathological anatomy, complications.

65. Chronic gastritis. Classification, etiology, pathogenesis. Pathological anatomy of chronic gastritis in

66. Peptic ulcer of the stomach. Etiology, pathogenesis. Pathological anatomy, complications, causes of death (PC-6).

67. Viral hepatitis. General characteristics of viral hepatitis. Etiology, pathogenesis. Pathological anatomy of the cyclic (jaundice) form of viral hepatitis.

68. Cirrhosis of the liver. Definition. Clinical and anatomical classification. Pathological anatomy of portal and postnecrotic cirrhosis. Extrahepatic changes in liver cirrhosis. Complications, causes of death.

69. Cirrhosis of the liver. Definition, clinical and anatomical classification. Pathological anatomy of biliary cirrhosis.

70. Glomerulonephritis. Definition, classification, etiology and pathogenesis of glomerulonephritis. Pathological anatomy of acute glomerulonephritis. Complications, outcomes.

71. Glomerulonephritis. Etiology, classification. Pathological anatomy of chronic glomerulonephritis, complications, causes of death.

72. Pyelonephritis. Etiology, pathogenesis. Pathological anatomy of acute and chronic pyelonephritis. Complications, outcomes of the disease.

73. Primary tuberculosis. Etiology, pathogenesis. Pathological anatomy of primary tuberculosis. Complications, outcomes of primary tuberculosis.

74. Hematogenic tuberculosis. Etiology, pathogenesis. Pathological anatomy of forms of hematogenic tuberculosis.

75. Secondary tuberculosis. Etiology, pathogenesis. Pathological anatomy. Complications, causes of death.

76. Sepsis. Definition, etiology, local and general changes in sepsis.

77. Pathological anatomy of septicopyemia and septicemia.

78. Acute pulpitis. Etiology, pathogenesis, morphological manifestations.

79. Chronic pulpitis. Definition, etiology, pathogenesis, morphological characteristics.

80. Periodontitis. Definition, etiology, pathogenesis, morphological characteristics.

81. Periods of morphofunctional state of the dental system. Age-related changes in teeth.

82. Malformations and location of teeth. Types of anomalies, their characteristics.

83. Malformations of tooth tissues: enamel, dentin, cement. Kinds. Characteristic.

84. Periodontitis. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

85. Gingivitis. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

86. Periodontitis. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

87. Periodontal disease. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes (PC-6).

88. Parodontomas. Ideopathic progressive periodontal disease. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

89. Caries. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

90. Non-cariou lesions of the hard tissues of the teeth. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

91. Stomatitis. Classification. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

92. Tumors of the tongue. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

93. Tuberculosis of the maxillofacial system. Tuberculous lupus. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

94. Tuberculosis of the maxillofacial system. Miliary-ulcerative tuberculosis. Actinomycosis of the maxillofacial system. Forms. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

95. Inflammatory diseases of the jaws. Osteitis. Periostitis. Osteomyelitis. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

96. Odontogenic tumors. Histological forms. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

97. Tumors histogenetically associated with odontogenic mesenchyma. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

98. Tumors of the salivary glands. Classification. Definition, etiology, pathogenesis, morphological changes. Complications. Outcomes.

6.3. Suggested themes of term papers (projects)

Not provided

6.4. Suggested themes of term projects

not provided

6.5. Suggested topics of calculation and graphic works

Not provided

7. Educational, methodological, informational and software support of the discipline (module)

The electronic catalog and electronic information resources provided by the scientific library of the FSBEI of HE "I. N. Ulianov Chuvash State University" are available at the link <http://library.chuvsu.ru/>

7.1. Regulatory documents, standards and rules

Федеральный закон "Об основах охраны здоровья граждан в Российской Федерации" от 21.11.2011 N 323-ФЗ

Закон РФ от 22 декабря 1992 г. N 4180-I "О трансплантации органов и (или) тканей человека"

Федеральный закон "О погребении и похоронном деле" от 12.01.1996 N 8-ФЗ

Постановление Правительства РФ от 20 сентября 2012 г. N 950 "Об утверждении Правил определения момента смерти человека, в том числе критериев и процедуры установления смерти человека, Правил прекращения реанимационных мероприятий и формы протокола установления смерти человека"

Приказ Министерства здравоохранения РФ от 6 июня 2013 г. N 354н "О порядке проведения патолого-анатомических вскрытий"

Federal Law "On the basics of public health protection in the Russian Federation" dated 21.11.2011 N 323-FZ

The Law of the Russian Federation of December 22, 1992 N 4180-I "On transplantation of organs and (or) human tissues"

Federal Law "On burial and funeral business" of 12.01.1996 N 8-FZ

Decree of the Government of the Russian Federation No. 950 dated September 20, 2012 "On approval of the Rules for Determining the moment of Death of a Person, including criteria and procedures for determining the death of a Person, Rules for Termination of resuscitation measures and the form of the protocol for determining the death of a person"

Order of the Ministry of Health of the Russian Federation No. 354n dated June 6, 2013 "On the procedure for conducting pathoanatomic autopsies"

7.2. Recommended basic educational and methodological literature

№ item	Name
1	

7.3. Recommended supplementary educational and methodological literature

№ item	Name
1	

7.4. List of resources of the "Internet" information and telecommunication network

№ item	Name	Link to the resource
1	Basic page of practical pathologists	http://practpath.narod.ru/
2	I am a pathologist	http://www.ipath.ru/
3	Pathomorphology	http://ihc.ucoz.ru/
4	General human pathology	http://patho-not.narod.ru/index.html
5	Atlas of Surgical Pathohistology	http://www.surgicalpathologyatlas.com/glfusion/
6	Practical anatomy and Hematology	http://pathanatom.ru/

7.5. Software, professional databases, information and reference systems, electronic educational resources and electronic library systems

Software, professional databases, information and reference systems provided by the Informatization Department of the FSBEI of HE "I.N. Ulianov Chuvash State University" are available for download at the link <http://ui.chuvsu.ru> //. The Unified Register of Russian programs for electronic computers and databases, including freely distributed ones, is available at the link reestr.minsvyaz.ru/reestr/.

7.5.1. Licensed and freely distributed software

Microsoft Windows operating System and/or Unix-like operating system and/or mobile operating system;

Office software packages:

Microsoft Office and/or LibreOffice

and (or) OpenOffice and (or) analogues;

Browsers, including Yandex.Browser.

List of software:

7.5.2. Lists of professional databases and (or) information reference systems and (or) electronic library systems and (or) electronic educational resources

8. Material and technical support of the discipline

Classrooms for lecture-type classes in the discipline are equipped with a teacher's automated workplace consisting of: a personal computer/laptop, multimedia equipment with a screen and (or) SMART interactive whiteboard/SMART TV.

The premises for students' independent work are equipped with computer equipment enabling to connect to the Internet and provide access to the electronic information and educational environment of the FSBEI of HE "I.N. Ulianov Chuvash State University".

№ item	Lesson type	Brief description and characteristics of the composition of installations, measuring and diagnostic equipment, computer equipment and experimental automation tools
1		Учебная аудитория для занятий семинарского типа, текущего контроля и промежуточной аттестации. Оборудование: компьютерная техника с необходимым программным обеспечением, с подключением к сети Интернет и обеспечением доступа в электронную информационно-образовательную среду университета, мультимедийное оборудование (проектор, экран, ПК или ноутбук), учебная доска, учебная мебель

9. Means of adapting the discipline teaching to the needs of persons with physical conditions

If necessary, persons with physical conditions can be offered one of the following options for perceiving information, taking into account their individual psychophysical characteristics:

- 1) using e-learning and distance learning technologies.
- 2) using special equipment (enginery) and software in accordance with the students' health restrictions in the Training Centers for Persons with Disabilities and Physical Conditions (hereinafter referred to as special needs) available at the university.

In the course of training, if necessary, the following conditions are provided for persons with visual, hearing and musculoskeletal disorders:

- for persons with visual impairments: educational and methodological materials in printed form in enlarged font; in the form of an electronic document; in the form of an audio file (conversion of educational materials into audio format); in printed form in Braille; individual consultations involving a tactile interpreter; individual assignments and consultations.

- for people with hearing impairments: educational and methodological materials in printed form; in the form of an electronic document; video materials with subtitles; individual consultations involving a sign language interpreter; individual assignments and consultations.

- for persons with disorders of the musculoskeletal system: educational and methodological materials in printed form; in the form of an electronic document; in the form of an audio file; individual assignments and consultations.

10. Guidelines for students to perform independent work

The purpose of the student's independent work (IW) is to consolidate the theoretical knowledge gained and to acquire practical skills in using and performing research of algorithms and data structures when designing application software programs. IW includes independent study of educational issues, preparation for laboratory classes, performing calculation and graphic work, preparation for a test and an exam.

The list of questions and tasks for independent work to prepare for laboratory classes is given in the corresponding methodological instructive regulations in the description of each laboratory work.

The list of questions and tasks for independent work to carry out calculation and graphic work is given in the relevant methodological instructive regulations.

Independent work of students is an integral part of the educational process. The purpose of independent work is to prepare a modern competent specialist and to form abilities and skills for continuous self-education and professional improvement.

The implementation of this goal involves solving the following tasks:

- qualitative development of theoretical material in the discipline under study, deepening and expanding theoretical knowledge in order to apply them at the level of interdisciplinary connections;

- systematization and consolidation of the acquired theoretical knowledge and practical skills;

- formation of skills in the search and use of normative, legal, reference and special literature, as well as other sources of information;

- development of cognitive abilities and activity, creative initiative, independence,

responsibility and organization;

- formation of independent thinking, abilities for self-development, self-education, self-improvement and self-realization;
- development of research skills;
- formation of the ability to solve practical problems (in professional activity) using acquired knowledge, abilities and skills.

11. Methodological instructive regulations for students studying the discipline (module)

The discipline "Pathological anatomy" allows students to develop an idea of the structural foundations of diseases, their etiology and pathogenesis, to master the method of clinical and anatomical analysis of biopsy, surgical and sectional material, the principles of diagnosis. Therefore, students should rely mainly on the knowledge and skills acquired during lectures and laboratory classes. This provides the necessary basis for further in-depth study of other disciplines. However, this knowledge needs to be activated.

Forms of independent work of students provided by the discipline:

- Preparation for laboratory classes;
- Independent study of educational issues;
- Preparation for the test;
- Preparation for the exam.

The following sources can be recommended for independent preparation for laboratory classes, study of educational questions and the exam:

- lecture notes and materials of practical classes;
- educational literature of the relevant profile.

At the beginning of the course, the teacher informs students about the forms, types and content of independent work, explains the requirements for the results of independent work, as well as forms and methods of control and evaluation criteria

11.1. Methodological instructive regulations for preparing for seminar-type classes

Laboratory training is one of the forms of educational work, which is focused on consolidating the studied theoretical material, its deeper assimilation and the formation of the ability to apply theoretical knowledge for practical, applied purposes.

Special attention in practical classes is paid to the development of educational or professional skills. Such skills are formed in the process of performing specific tasks – exercises, tasks, etc. – under the guidance and supervision of a teacher. The main purpose of practical training is the formation of skills and the acquisition of practical experience aimed at the formation of professional competencies (the ability to perform certain actions, operations necessary in professional activities) or general competencies (general competencies are necessary for successful activities in both professional and non- professional spheres).

The content of laboratory classes is the solution of various kinds of tasks, including professional ones (analysis and solution of situational tasks facing a medical doctor; the ability to correctly determine the general pathological processes developing in the patient's body according to macro- and micro-preparations, which then must be clearly distributed in a thanatogenetic sequence; the ability to work with medical documentation, formulation and correctness construction of a clinical diagnosis, comparison of a clinical diagnosis with a pathoanatomic one; etc.), the implementation of all stages of logical thinking of a dentist teaches students in the specialty "Dentistry" to correctly diagnose a disease or pathological condition and choose the most optimal treatment tactics for the patient, etc.

To prepare for the laboratory lesson, the student needs to study the theoretical material on this topic, remember the basic definitions and rules, analyze the data in the lectures of problem solving. To consolidate the material passed, the student must complete homework in accordance with the task received at the previous practical lesson. In case of difficulties in its implementation, it is recommended to seek the help of a teacher in the time

allotted for consultations.

Stages of preparation for the laboratory lesson:

- study of the theoretical material obtained at the lecture and in the process of independent work;

- completing homework;

- self-check on the control issues of the topic.

11.2. Methodological instructive regulations for preparing for an examination

The exam aims to evaluate the student's work for a certain course: the theoretical knowledge gained, their strength, the development of logical and creative thinking, the acquisition of independent work skills, the ability to analyze and synthesize the knowledge gained and apply in practice the solution of situational problems, work with macro- and micro-preparations.

The exam is conducted in writing on tickets approved by the head of the department. The examination ticket includes three questions, one task, the definition of two microscopic preparations. The wording of the questions coincides with the wording of the list of questions brought to the attention of students one month before the examination session. In the process of preparing for the exam, a pre-examination consultation was organized for all study groups. The result of the exam is expressed by the assessment "excellent", "good", "satisfactory".

In order to clarify the assessment, the examiner can ask no more than one or two additional questions that do not go beyond the requirements of the work program. An additional question means a question that is not related to the subject of the ticket issues. An additional question, as well as the main questions of the ticket, requires a detailed answer. In addition, the teacher can ask a number of clarifying and leading questions related to the subject of the main questions of the ticket. The number of clarifying and leading questions is unlimited.

11.3. Methodological instructive regulations for preparing for a test

Preparation of students for passing the test includes:

- viewing the program of the training course;

- identification of sources necessary for the preparation (textbooks, additional literature, etc.) and their study;

- use of lecture notes, materials of practical classes;

- consulting with a teacher.

Preparation for the test begins with the first lesson in the discipline, at which students receive a general teacher's attitude and a list of basic requirements for current and final reporting. At the same time, it is important to systematically master the material from the very beginning, guided, first of all, by the list of questions for the test (exam), to take notes of sources important for solving educational tasks. During the semester, the replenishment, systematization and adjustment of student achievements, the development of new and consolidation of already studied material take place.

11.4. Methodological instructive regulations for performing computational and graphical

NOT provided

11.5. Methodological instructive regulations for performing a control work

NOT provided

11.6. Methodological instructive regulations for performing a course work (project)

NOT provided

List of additions and changes

The name and details (if any) of the document attached to the Working Program of the discipline (module) containing the text of updates	Department's decision		Full name of department head:
	Date	Protocol №	