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Federal State Budget Educational Institution
of Higher Education
Pacific State Medical University
of the Ministry of Health of the Russian Federation

APPROVED BY
First Vice-Rector
_____ / Trankovskaya L.V./
"9" июня 2025

DISCIPLINE WORK PROGRAM

Б1.О.10 Histology, embryology, cytology - Oral histology

(name of discipline)

Specialty	**31.05.03 Dentistry for international students (in English)** (code, name)
Degree	Specialist's degree
Profile	02 "Healthcare" (in the field of providing health care in patients with dental pathology)
Mode of study	Full-time
Period of mastering the BEP	**5 years** (nominal length of study)
Department	of Histology, Embryology and Cytology

Vladivostok, 2025

Program of the discipline **Б1.О.10 Histology, embryology, cytology - Oral histology** is based on:
1) Federal State Educational Standard of Higher Education for the specialty approved by the Order No. 984 of Ministry of Science and Higher Education of the Russian Federation
dated August 12, 2020.

2) Curriculum for the 31.05.03 Dentistry for international students (in English), profile 02 "Healthcare" (in the field of providing health care in patients with dental pathology),
approved by the Academic Council of FSBEI HE PSMU of the Ministry of Health of Russia
Report No. 8/24-25 dated March 31, 2025.

Work program for the discipline was developed by the writing team of the Department of Histology, Embryology and Cytology of the FSBEI HE PSMU of the Ministry of Health of Russia, under the guidance of the head of the department Doctor of Medical Sciences, Associate Professor Matveeva N.Yu.

Developed by:

Head of Department	Doctor of Medical Sciences, Associate Professor	Matveeva N.Yu.
(position held)	(academic degree, academic title)	(full name)
Senior Lecturer	PhD	Ivashkevich. D.N.
(position held)	(academic degree, academic title)	(full name)

1. GENERAL PROVISIONS

1.1. Purpose and Objectives of Mastering Б1.О.10 Histology, embryology, cytology - Oral histology

The purpose of mastering the discipline is to acquire fundamental knowledge, systemic scientific ideas about microscopic functional morphology and development of human cell, tissue, and organ systems, providing a basis for studying general professional disciplines and achieving professional competencies that contribute to the formation of a specialist.

Objectives of mastering the discipline:

1. Examine histofunctional characteristics of main systems of human body, principles of their embryonic development, as well as functional, age, and protective-adaptive changes of organs and their structural elements;
2. Learn international histological Latin terminology;
3. Develop skills of studying histological microscope slides using a light microscope;
4. Develop skills of identifying organs, their tissues, cells and non-cellular structures at the microscopic level;
5. Develop ideas about adaptation of cells and tissues to various biological, physical, chemical and other environmental factors;
6. Develop skills of independent analytical and research activity;
7. Develop skills of working with scientific literature, databases, and modern information systems, as well as basic methods of statistical processing of results, creation of multimedia slides presentations.

2. DISCIPLINE AS PART OF THE BASIC EDUCATIONAL PROGRAM

Discipline **Б1.О.10 Histology, embryology, cytology - Oral histology** is included in the Mandatory part of the Unit 1 of the basic educational program for the specialty 31.05.03 Dentistry for international students (in English), profile 02 "Healthcare" (in the field of providing health care in patients with dental pathology), and is part of the 2nd and 3rd semesters' curriculum.

3. PLANNED LEARNING OUTCOMES OF THE DISCIPLINE

3.1. Mastering the discipline **Б1.О.10 Histology, embryology, cytology - Oral histology** is aimed at the development of students' competencies. The discipline facilitates the development of students' competencies corresponding to the types of professional activity.

Name of competency category (group)	**Code and Name of competency of the graduate**	**Competency Indicators**
General professional competencies		
Basis of fundamental and natural science knowledge	GPC-9. Is able to assess morphofunctional status, physiological states, and pathological processes in the human body when working to achieve objectives of professional activity	CI.GPC-9_1- assesses the morphofunctional state of organs CI.GPC-9_2- distinguishes between pathological and physiological processes, identifies etiology of changes CI.GPC-9_3- provides diagnostic assessment of the identified changes

3.2. Types of professional activity corresponding to competencies developed over the course of mastering **Б1.О.10 Histology, embryology, cytology - Oral histology**:

Types of professional activity objectives

1. *Medical*

Kinds of professional activity objectives

1. *Examination of the patient in order to make a diagnosis*
2. *Prescribing pharmacological and non-pharmacological treatment and monitoring its efficiency and safety*

3.3. Planned learning outcomes of mastering the discipline are represented by knowledge, skills, abilities and/or experience, characterize the stages of developing competencies and ensure achievement of the planned outcomes of mastering the basic educational program. Learning outcomes of a discipline are correlated with competency indicators.

4. SCOPE AND CONTENT OF THE DISCIPLINE

4.1. Scope of the Discipline and Types of Academic Work

Type of Academic Work		**Total Hours**	**Semesters**	
			2	**3**
			hours	**hours**
1		2	3	4
Classroom hours (total), including:		**116**	**50**	**66**
Lectures (L)		36	18	18
Practical classes (C)		80	32	48
Independent work of the student (IW), including:		**73**	**58**	**15**
Writing a research paper		13	10	3
Writing an essay		7	5	2
Writing a library research paper		6	5	1
Calculation and graphic assignments		6	5	1
Preparing for classes (CP)		24	19	5
Preparing for continuous assessment (CAP)		7	6	1
Preparation for interim assessment (IAP)		10	8	2
Interim assessment		27		27
Type of interim assessment	graded test (GT)	GT		GT
	exam (E)			
TOTAL: TOTAL credit value	hrs.	**216**	**108**	**108**
	credits	**6**	**3**	**3**

4.2. Contents of the Discipline

4.2.1. Topics of Discipline Lectures and Academic Hours per Semester

No.	**Lecture Topic**	**Hours**
1	2	3
	Semester No. 2	
1.	Cell structure and function. Methods of cell reproduction. Apoptosis and necrosis	2
2.	Tissues. General characteristics of epithelial tissues	2
3.	General characteristics and classification of mesenchymal tissues. Connective tissues. Cartilage tissue	2
4.	Blood, hematopoiesis	2
5.	Bone tissue, muscle tissue	2
6.	Nervous tissue and nervous system. Theory of neuronal structure of the nervous system	2
7.	Spinal cord system. Autonomous nervous system	2

8.	Cerebral cortical histology	2
9.	Sensory system	2
	Hours per semester total	**18**
	Semester No. 3	
1.	Cardiovascular system	2
2.	Hematopoietic organs and organs of immune defense	2
3.	Digestive system	2
4.	Digestive glands. Salivary glands. Pancreas. Liver	2
5.	Organs of the oral cavity	2
6.	Organogenesis of the face and oral cavity	2
7.	Organogenesis of the tooth	2
8.	Structure of the tooth	2
9.	Endocrine system: central and peripheral organs	2
	Hours per semester total	**18**

4.2.2. Topics of Discipline Practical Classes and Academic Hours per Semester

No.	**Practical Class Topic**	**Hours**
1	2	3
	Semester No. 2	
1	Histological techniques. Preparation of permanent histological microscope slides. Cell structure and function. Cell response to damage	4
2	Seminar on "Cytology". Epithelial tissues	4
3	Mesenchyma. Connective tissues	4
4	Blood as tissue. Hematopoiesis. Immune system	4
5	Cartilage tissue. Bone tissue	4
6	Muscle tissue. Seminar on "Tissues"	4
7	Nervous tissue. Spinal cord system. Autonomous nervous system	4
8	Cerebral cortical histology: cerebral cortex, cerebellar cortex. Sensory system. Visual and olfactory organs. Auditory, equilibrial, and gustatory organs	4
	Hours per semester total	**32**
	Semester No. 3	
1	Seminar on "Tissues". Seminar on "Nervous system. Sensory system"	4
2	Cardiovascular system. Hematopoietic organs and organs of immune defense	4
3	Digestive system	4
4	Digestive glands	4
5	Seminar "Cardiovascular system," "Digestive system," "Hematopoietic organs and organs of immune defense"	4
6	Oral mucosa: lips, cheeks, hard palate, gingiva (gums), floor of the mouth, tongue. Organogenesis of the face and oral cavity. Congenital anomalies	4
7	Organogenesis of deciduous and permanent teeth. Stages of development. Histogenesis of the tissues of the tooth: dentinogenesis, amelogenesis, cementogenesis. Development of the tooth pulp	4
8	Structure of the tooth. Tooth-supporting structures (the periodontium)	4
9	Age-related changes of the teeth. Teething. Theories of teething. Anomalies of teeth organogenesis and teething. Seminar on "Oral histology"	4
10	Endocrine system	4
11	Respiratory organs. Urinary system	4
12	Male reproductive system. Female reproductive system	4

	Hours per semester total	**48**

4.2.3. Independent Work of the Student

No.	Name of the Discipline Section	Type of IW	Total Hours
1	3	4	5
	Semester No. 2		
1	Cell membrane, Intercellular contacts	Preparation for test, summary notes, essay	5
2	Cell life cycle. Apoptosis and necrosis	Report, preparation for testing, essay	5
3	Blood and lymph. Hematopoiesis	Oral assessment (interview), library research paper, diagram creation, drawings	6
4	Immune system	Library research paper, essay, diagram creation	6
5	Muscle tissue	Oral assessment (interview), test paper, testing	6
6	Nervous tissue and neuroglia	Library research paper, essay, drawings	6
7	Spinal cord	Drawings, diagrams, preparation for test paper	6
8	Cerebral cortex	Essay, library research paper, diagrams, tables, drawings	6
9	Cerebellar cortex	Essay, library research paper, diagrams, tables, drawings	6
10	Autonomous nervous system	Test paper, diagrams	6
	Hours per semester total		**58**
	Semester No. 3		
1	Structural organization of the immune system	library research paper, essay, drawings	2
2	Aspects of regeneration of the oral mucosa	Diagrams, drawings	2
3	Endocrine cells of the organs of the gastrointestinal tract. Immune system of the intestine	Preparation for test paper, diagrams, preparation for testing	2
4	Pancreas and liver	library research paper, drawings, diagrams	2
5	Endocrine system	Essay, diagrams, drawings, tables	3
6	Urinary system. Kidneys	Diagrams, preparation for testing	2
7	Human embryogenesis. Extraembryonic organs	Diagrams, preparation for testing	2
	Hours per semester total		**15**

5. REQUIREMENTS FOR IMPLEMENTATION OF DISCIPLINE

5.1. Discipline Requirements for Educational Materials and Provided Information

Essential reading

No.	Name/Title, Resource Type	Author(s)/Editor	Publisher Imprint, Web Address	Number of Copies (accesses) in the Library and Information Center

1	2	3	4	5
1	Histology, Cytology and Embryology: atlas: textbook	Bykov, V.L. / V.L. Bykov, S.I. Yushkantseva.	M.: GEOTAR-Media, 2015. - 296 p.	50
2	Histology, Embryology, Cytology: textbook for universities	Yu.I. Afanasyev, N.A. Yurina, B.V. Aleshin et al.; edited by Yu.I. Afanasyev, N.A. Yurina. - 7th ed., revised and supplemented	M.: GEOTAR-Media, 2021. - 828, [4] p.	50
3	Histology, Embryology, Cytology: textbook [Electronic resource]	Yu. I. Afanasyev, N. A. Yurina, E. F. Kotovsky et al.; edited by Yu. I. Afanasyev, N. A. Yurina. - 6th ed., revised and supplemented	M.: GEOTAR-Media, 2016. - 800 p. URL: http://www.studmedlib.ru	Unlimited access
4	Histology, Embryology, Cytology: textbook [Electronic resource]	N.V. Boychuk, R.R. Islamov, E.G. Ulumbekov, Yu.A. Chelyshev; edited by E.G. Ulumbekov, Yu.A. Chelyshev	M.: GEOTAR-Media, 2016. URL: http://www.studmedlib.ru	Unlimited access
5	Guide to Histology: in 2 vols. Vol. 1 [Electronic resource]	edited by R.K. Danilov. - 2nd ed., corrected and supplemented	St. Petersburg: SpetsLit, 2011. - 831 p. URL: http://books-up.ru/	Unlimited access
6	Guide to Histology: in 2 vols. Vol. 2 [Electronic resource]	edited by R.K. Danilov. - 2nd ed., corrected and supplemented	St. Petersburg: SpetsLit, 2011. - 511 p. URL: http://books-up.ru/	Unlimited access
7	Histology, Embryology, Cytology: textbook [Electronic resource]	Danilov R.K., Borovaya T.G.	M.: GEOTAR-Media, 2020. - 528 p. URL: http://www.studentlibrary.ru	Unlimited access
8	Histology and Embryonic Development of Human Oral Cavity Organs: textbook	Bykov, V.L.	M.: GEOTAR-Media, 2014. - 624 p.	25
9	Histology and Embryonic Development of Human Oral Cavity Organs: textbook [Electronic resource]	V.L. Bykov.	M.: GEOTAR-Media, 2014. - 624 p. URL: http://www.studmedlib.ru	Unlimited access

Supplementary reading

No.	Name/Title, Resource Type	Author(s)/Editor	Publisher Imprint, Web Address	Number of Copies (accesses) in the Library and Information Center
1	2	3	4	5
1	Atlas of Histology: more than 500 color illustrations	edited by U. Welsch; [translated from German under the editorship of V.V. Banin]	M.: Geotar-Med, 2011. - 253, [1] p.	5
2	Terminologia	edited by L.L.	M.: GEOTAR-Media,	Unlimited

	Embryologica. International Terms on Human Embryology with Official List of Russian Equivalents [Electronic resource]	Kolesnikov, N.N. Shevlyuk, L.M. Erofeeva.	2014. URL: http://www.studmedlib.ru	access
3	Histology, Cytology and Embryology. Atlas: textbook [Electronic resource]	V.L. Bykov, S.I. Yushkantseva.	M.: GEOTAR-Media, 2013. - 296 p. URL: http://www.studmedlib.ru	Unlimited access
4	Histology, Embryology, Cytology [Electronic resource]	N. Yu. Matveeva, S. G. Kalinichenko, I. V. Kovaleva, S. S. Edranov, A. V. Korobtsov, I. I. Vavilova, edited by N. Yu. Matveeva.	Vladivostok: Medicine DV, 2015. - 256 p. URL: http://www.studentlibrary.ru	Unlimited access
5	Histology of Oral Cavity Organs: textbook: atlas	S.L. Kuznetsov, V.E. Torbek, V.G. Derevyanko	M.: GEOTAR-Media, 2012. - 132, [4] p.	60

Online resources

1. Electronic library system "Student Consultant" http://studmedlib.ru/
2. Electronic library system "University Library Online"http://www.biblioclub.ru/
3. Electronic library system "Urait" https://urait.ru/
4. Electronic library system "BookUp" https://www.books-up.ru/
5. Resources owned by the Library and Information Center of FSBEI HE PSMU of the Ministry of Health of Russia https://tgmu.ru/university/bibliotechno-informacionnyj-centr/resursy-bic/sobstvennye/

Online resources and respective user guides are available on the Library and Information Center website Library and Information Center — PSMU (tgmu.ru)



5.2. Discipline Requirements for Facilities and Resources

Information on the facility and resource availability and requirements of the discipline is available on the Facility and resource availability and requirements. FSBEI HE PSMU of the Ministry of Health of Russia (tgmu.ru)" page of the official website of the university.



5.3. List of Information Technologies, Information and Reference Systems, Licensed and Free Software (Including Domestically-developed Software):

1. PolycomTelepresence M100 Desktop Conferencing Application (Videoconference system)
2. SunRav Software tTester
3. 7-PDF Split & Merge
4. ABBYYFineReader
5. Kaspersky Endpoint Security

6. INDIGO online testing system
7. Microsoft Windows 7
8. Microsoft Office Pro Plus 2013
9. 1C:University
10. GARANT system
11. MOODLE (Modular Object-Oriented Dynamic Learning Environment)

6. ASPECTS OF THE IMPLEMENTATION OF THE DISCIPLINE FOR STUDENTS WITH DISABILITIES AND SPECIAL NEEDS

6.1. Availability of Accessible Environment

For students with disabilities and special needs, if a written application is submitted, lectures and practical classes are carried out taking into account health limitations, individual capabilities and medical status (hereinafter referred to as individual characteristics) of the student. Compliance with the following general requirements is ensured: teaching aids for collective and individual use are provided, required technical assistance is provided by an assistant; buildings and premises where lectures and practical classes are taking place meet accessibility requirements, other arrangements lack of which makes it impossible or difficult to master the discipline are made.

6.2. Ensuring Compliance with General Requirements

When lectures and practical classes are carried out at the written application of the student, the following general requirements are met: lectures and practical classes for students with disabilities and special needs take place at the same location as for students who do not have disabilities, if this does not cause difficulties for students; an assistant (assistants), who provide(s) students with the necessary technical assistance taking into account individual characteristics of the student, is (are) provided; necessary teaching aids are provided, taking into account individual characteristics of the student.

6.3. Availability of the Internal Policies and Procedures of FSBEI HE PSMU of the Ministry of Health of Russia to Students with Disabilities in a Format Accessible to Them.

All internal policies and procedures of FSBEI HE PSMU of the Ministry of Health of Russia concerning the discipline are made available to students with disabilities in a format accessible to them.

6.4. Increase in the Time Limit of Interim Assessment for Students with Disabilities and Special Needs in Relation to the Established duration

Format of the interim assessment of academic performance within the scope of the discipline conducted for students with disabilities and special needs is selected taking into account individual characteristics of the students (orally, by writing on paper, by typing on a computer, as a test, etc.). The duration of the interim assessment in relation to the established duration is increased at the written application of the student with disabilities. Time limit for the student's preparation for the test is increased by at least 0.5 hours.

7. STAFFING REQUIREMENTS OF THE DISCIPLINE

Academic teaching personnel that ensure the implementation of the discipline education process meet the requirements of the Federal State Educational Standard of Higher Education for the 31.05.03 Dentistry for international students (in English); list of the aforementioned personnel is available on the website of the educational organization.

8. TUTORIAL WORK

Type of tutorial work	Forms and approaches to tutorial work	Assessment criteria
Assistance in personal growth	Overt Talks and problem-centric debates aimed at promotion of healthy lifestyle. Participation in interdepartmental conferences aimed at formation of healthy lifestyle and development of skills necessary to preserve and improve health.	Portfolio
	Covert – creating atmosphere and infrastructure. Developing a culture of healthy lifestyle, the ability to preserve and improve health. Creating atmosphere of kindness and respect with a high level of communication during implementation of the discipline.	
Civic position and values	Overt Conducting events that facilitate development of civil culture (roundtable discussions, discussions/debates, and talks). Short discussions on current significant events in case the latter occur.	Portfolio
	Covert Focusing on civic values-oriented position and legal awareness. Cultivating mindful social position during professional activity.	
Social values	Overt Highlighting aspects of organization of healthy lifestyle based on health-preserving technologies. Highlighting ecology-related questions, environmental issues as a factor affecting population health and select population risks.	Portfolio
	Covert Identification in social structure during period of education and in professional activity.	