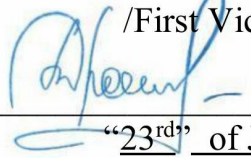


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**Federal State Budgetary Educational Institution
of Higher Education
"Pacific State Medical University"
of the Ministry of Health of the Russian Federation**

APPROVED BY

/First Vice-Rector

 / Dvoynikova E.R./
"23rd" of June 2026

**WORKING PROGRAM OF DISCIPLINE (MODULE)
B1.C.12 Microbiology, virology - microbiology of the oral cavity**

(name of the discipline (module))

Specialization

31.05.03 Dentistry for international students
specialty

Level of training

Focus of training

02 Healthcare

The form of education

full-time

Completion period

5 years

Institute/Chair

Microbiology, virology

Vladivostok, 2026

When developing the working program of the discipline (module) **B1.C.12 Microbiology, virology - microbiology of the oral cavity** is based on:

- 1) Federal State Educational Standard for Higher Education in the specialty 31.05.03 Dentistry, approved by Order No. 984 dated August 12, 2020 of the Ministry of Science and Higher Education of the Russian Federation.
- 2) Curriculum for the 31.05.03 Dentistry for foreign students (English-language program), 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. 1-7/25-26 dated March 27, 2026.

The working program of the discipline was developed by the team of the department / institute (name of the structural unit) of the Federal State Budgetary Educational Institution of Higher Medical Education of the Ministry of Health of the Russian Federation, under the supervision of the head of the department / director of the Institute

Developers:

<u>Head of the Department</u> (current position)	<u>Doctor of Medical Sciences, Associate Professor</u> (academic degree, academic title)	<u>Elena A. Zaitseva</u> (Full name)
<u>Associate Professor of the Department</u> (current position)	<u>Ph.D. of Medical Sciences, Associate Professor</u> (academic degree, academic title)	<u>Natalia R. Zabelina</u> (Full name)
<u>Department Assistant</u> (current position)	<u></u> (academic degree, academic title)	<u>Maria N. Dunaeva</u> (Full name)

1. GENERAL PROVISIONS

1.1. The purpose and objectives of mastering the discipline (module) B1.C.12 Microbiology, virology - microbiology of the oral cavity.

The purpose of mastering the discipline (module) is to acquire knowledge of the theoretical foundations and patterns of interaction between micro- and macroorganisms, as well as methods of microbiological, molecular biological and immunological diagnostics, the main directions of treatment and prevention of infectious diseases.

Objectives of the discipline (module) (*3-7 tasks depending on the number of auditorium hours*):

1. Students' learning on the classification, morphology and physiology of microbes, including viruses, in the area of their biological and pathogenic properties, their impact on public health; on the features of the formation of processes of symbiosis of the human body with microbes, the role of resident microbiota of the body in the development of opportunistic diseases; on the features of the oral cavity microbiota in norm and pathology, the role of microorganisms in the development of dental diseases;
2. Students' mastery of modern diagnostic methods of infectious and opportunistic diseases in dental practice;
3. Students' mastery the basic methods of sterilization, disinfection and antiseptic treatment of instruments and equipment;
4. Students acquainting with the principles of choosing tactics for antibacterial and antiviral therapy;
5. Initiating self-educational activities of students: developing the ability to compare facts, draw conclusions, developing personal qualities, teaching the maximum use of modern scientific achievements and scientists.

2. PLACE OF DISCIPLINE (MODULE) IN THE STRUCTURE OF THE BASIC EDUCATIONAL PROGRAM

Discipline (module) **B1.C.12 Microbiology, virology - microbiology of the oral cavity** refers to the Part 1 Disciplines of the main educational program the specialty 31.05.03 Dentistry and it is studied in the II and III semesters.

3. PLANNED LEARNING OUTCOMES FOR THE DISCIPLINE (MODULE)

3.1. The discipline (module) B1.C.12 Microbiology, virology - microbiology of the oral cavity is aimed at developing students' competencies, depending on the types of tasks of professional activity.

Competence code	Formulation of competence	Indicators of competence achievement
Professional competencies		
OPK-9	Capable of assessing morphofunctional and physiological states and pathological processes in the human body to solve professional problems	IDK.OPK-9 ₂ – Student differentiates between pathological and physiological processes, student determines the etiology of changes; IDK.OPK-9 ₃ – Student provides a diagnostic assessment of the identified changes

3.2. Types of professional activities, based on those formed during the implementation of **B1.O.12 Microbiology, virology - microbiology of the oral cavity** competencies:

Type of professional activity

1. Medical

Types of professional tasks

1. Diagnostic activity

2. Therapeutic activities

3.3. The planned learning outcomes in the discipline (module) are expressed in knowledge, skills, and (or) work experience. The outcomes characterize the stages of competence formation and ensure the achievement of the planned results of mastering the basic educational program. The results of training in the discipline are correlated with indicators of competence achievement.

4. SCOPE AND CONTENT OF THE DISCIPLINE (MODULE)

4.1. Scope of the discipline (module) and types of academic work

Type of academic work		Total hours	Semesters	
			Semester	Semester
			hours	hours
1		2	3	4
Classroom classes (total), including:				
Lectures		30	20	8
Practical exercises		78	52	16
Electronic educational resource (ESR): including lectures held remotely in asynchronous format				
Independent work of the student, including:		72	36	36
Electronic Educational Resource (EER)				
Preparation for classes (PC)		56	30	26
Preparation for routine control (PRC)		10	6	4
Preparation for midterm examination (PME)		6		6
Midterm Examination				
Type of midterm examination	credit(S)			
	exam(S)			
Total: Overall labor intensity	hour.	180	108	72
	Cr	5	3	2

4.2. Content of the discipline

4.2.1. Lecture topics and the number of hours per semester of study of the discipline (module)

№	Lecture topics	Hours
1	2	3
Semester 2		
1.	Historical stages of microbiology development as a science. Principles of classification, morphology and structure of microorganisms.	2
2.	Characteristics of oral cavity eukaryotic microorganisms (fungi, protozoa).	2
3.	Physiology of microbes - nutrition, respiration, reproduction.	2
4.	Morphology and physiology of viruses. Bacteriophage. Prions.	2

5.	Ecological microbiology. Normal human microbiota. Microecology of the oral cavity. The oral cavity microbiota: main biotopes, morphology.	2
6.	Relationships between microbes and other biological objects. Antimicrobial drugs. Classification, mechanisms of action. Resistance of bacteria to antibiotics.	2
7.	Infection and infectious process. The concept of pathogenicity and persistence. Genetics of bacteria. Biofilms.	2
8.	Fundamentals of sanitary microbiology. Sanitary indicator microorganisms. Infections associated with the provision of medical care. Asepsis, antisepsis.	2
9.	Microbiota in dental caries.	2
10.	Microbiota in periodontitis, gingivitis.	2
	Total hours per semester	20
Semester 3		
1.	Microbiota in odontogenic infection.	2
2.	The oral mucosa infectious diseases of bacterial etiology (stomatitis, gonorrhea, diphtheria, listeriosis, scarlet fever). Part 1.	2
3.	The oral mucosa infectious diseases of bacterial etiology (syphilis, borreliosis, leptospirosis, mycobacteriosis). Part 2.	2
4.	The oral mucosa infectious diseases of fungal etiology.	2
5.	The oral mucosa infectious diseases of viral etiology.	2
	Total hours per semester	8

4.2.2. Topics of practical classes and the number of hours per semester of study of the discipline (module)

№	Practical classes' topics	Hours
1	2	3
Semester 2		
1.	Microorganisms' classification principles. Morphology, tinctorial properties and structure of bacteria. Microscopic examination.	4
2.	Normal oral cavity microbiota. Morphology and structure of oral cavity residents: spirochetes, fungi, protozoa.	4
3.	Microbial physiology. Respiration, nutrition, reproduction. Microbiological examination method. Principles of decontamination. Sterilization. Disinfection.	4
4.	Viruses - morphology and physiology. Bacterial viruses - bacteriophages. Prions and prion proteins.	4
5.	Characteristics of facultative anaerobic and aerobic microbiota of the oral cavity.	4
6.	Characteristics of obligate anaerobic microbiota of the oral cavity, role in pathology.	4
7.	Characteristics of the oral cavity eukaryotic microorganisms (fungi, protozoa). Normal human microbiota.	4
8.	Ecological microbiology. Microecology of the oral cavity. Main biotopes of the oral cavity. Biofilms (dental plaque, tartar, quorum sensing mechanisms).	4
9.	Antibiotics: characteristics, classification, mechanisms of action. Bacterial resistance. L-forms, persisting cells.	4
10.	Infection and infectious process. The concept of pathogenicity and persistence. Genetics of microorganisms. Microbiological research methods used in dentistry.	4
11.	Resident microbiota of the oral cavity. Fundamentals of sanitary microbiology. Sanitary indicator microorganisms. Infections associated with medical care supply. ESKAPE - pathogens.	4
12.	Oral microbiota in the development of pathological processes. Dental caries. The role of microorganisms in the formation of dental plaque, caries. Periodontopathogenic microbiota (gingivitis, periodontitis).	4

13.	Odontogenic infection. The role of oral microbiota in systemic diseases of the body. Current control.	4
Total hours per semester		52
Semester 3		
1.	Diseases of the oral mucosa of microbial etiology. Bacterial infections and their manifestations in the oral cavity (scarlet fever, stomatitis, gonorrhea, diphtheria, listeriosis).	4
2.	Bacterial infections and their manifestations in the oral cavity (tuberculosis, leprosy, syphilis, borreliosis, leptospirosis, pyoderma).	4
3.	The role of fungi in the etiology of lesions of the oral mucosa (candidiasis, systemic mycoses - aspergillosis, cryptococcosis, etc.)	4
4.	Lesions of the mucous membrane of viral etiology (herpes virus infections, shingles, cytomegalovirus infection, infectious mononucleosis).	4
5.	Microbiology of enterovirus infections. Measles, papillomavirus infection.	4
6.	Viral hepatitis. HIV infection in the oral cavity.	4
7.	Formative assessment	2
Total hours per semester		16

4.2.3. Students' selfwork

№ п/п	Name of the section of the academic discipline (module)	Types of Selfwork	Total hours
1	3	4	5
Semester 2			
1	General microbiology, oral cavity microbiology	Preparation for practical training. Preparation for current control.	28
2	Sanitary microbiology	Preparation for practical training.	2
3	Clinical microbiology	Preparation for practical training. Preparation for current control.	6
Total hours per semester			36
Semester 3			
1	Clinical microbiology	Preparation for practical training, Preparation for midterm assessment	36
Total hours per semester			36

5. CONDITIONS FOR THE IMPLEMENTATION OF THE DISCIPLINE (MODULE)

5.1. Educational, methodological and informational support of the academic discipline (module)

Basic literature **2-3 sources**

n/ №	Name, type of resource	Author(s) /Editor	Output data, email address	Number of copies (ac- cesses) in LIC
1	2	3	4	5

Additional literature **2-3 sources**

n/ №	Name, type of resource	Author(s) /Editor	Output data, email address	Number of copies (ac-
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				cesses) to the LIC
1	2	3	4	5

Online resources

1. EBS «Student Consultant» <http://studmedlib.ru/>
2. EBS «University Library online» <http://www.biblioclub.ru/>
3. EBS Yurayt <https://urait.ru/>
4. EBS «BookUp» <https://www.books-up.ru/>
5. Resources of the LIC FSBEI HE PSMU of the Ministry of Health of Russia PSMU
<https://tgmu.ru/university/bibliotechno-informacionnyj-centr/resursy-bic/sobstvennye/>

Online resources and instructions for their use are available on the Library and Information Center page [Библиотечно-информационный центр — ТГМУ \(tgmu.ru\)](https://tgmu.ru/bibliotечно-информационный центр — ТГМУ (tgmu.ru))



5.2. Logistical support of the academic discipline (module)

Information about the material and technical support of the discipline is posted on the official website of the university [Logistical support and equipment of the educational process. Pacific State Medical University of the Ministry of Health of the Russian Federation \(tgmu.ru\)](https://tgmu.ru/logistical-support-and-equipment-of-the-educational-process-pacific-state-medical-university-of-the-ministry-of-health-of-the-russian-federation)



5.3. The list of information technologies used for the implementation of the educational process in the discipline (module), information and reference systems, licensed and freely distributed software, including domestic production:

1. PolycomTelepresence M100 Desktop Conferencing Application (BKC)
2. SunRav Software tTester
3. 7-PDF Split & Merge
4. ABBYYFineReader
5. Kaspersky Endpoint Security
6. Online testing system INDIGO
7. Microsoft Windows 7
8. Microsoft Office Pro Plus 2013
9. 1C:University
10. The Guarantor
11. MOODLE(modular object-oriented dynamic learning environment)

6. THE SPECIFICS OF THE DISCIPLINE'S IMPLEMENTATION FOR STUDENTS WITH DISABILITIES AND PEOPLE WITH DISABILITIES

6.1. Availability of appropriate conditions for the implementation of the discipline

For students with disabilities and people with disabilities, on the basis of a written application, the discipline is implemented taking into account the characteristics of psychophysical development, individual capabilities and health state (hereinafter referred to as individual characteristics). The following general requirements are presented: the use of special technical training facilities for collective and individual use, the provision of the services of an assistant who provides such students with the necessary technical assistance, access to buildings and premises where classes are held, and other conditions without which it is impossible or difficult to study the discipline.

6.2. Ensuring compliance with general requirements

When implementing the discipline, the following general requirements are provided on the basis of a written application from the student: conducting classes for students with disabilities and people with disabilities in the same classroom with students without disabilities, if this does not create difficulties for students; the presence in the classroom of an assistant (assistants) who provides students with the necessary technical assistance taking into account their individual characteristics; the use of technical means necessary for students, taking into account their individual characteristics.

6.3. Bringing to the attention of students with disabilities, in a form accessible to them, all local regulations of the Federal State Budgetary Educational Institution of Higher Education PSMU of the Ministry of Health of the Russian Federation.

All local regulations of the Federal State Budgetary Educational Institution of Higher Education PSMU of the Ministry of Health of the Russian Federation on the implementation of the discipline (module) are brought to the attention of students with disabilities in a form accessible to them.

6.4. Implementation of an increase in the duration of the midterm examination in relation to the established duration for students with disabilities

The form of the current and interim certification in the discipline for students with disabilities and persons with disabilities is established taking into account individual psychophysical characteristics (orally, in writing on paper, in writing on a computer, in the form of testing, etc.).

The duration of the interim certification in relation to the established duration is increased upon written application of the student with disabilities. The duration of the student's preparation for the test is increased by at least 0.5 hours.

7. STAFFING OF THE DISCIPLINE

The composition of scientific and pedagogical staff who ensure the implementation of the educational process in the discipline meets the requirements of the Federal State Educational Standard for Higher Education in the specialty 31.05.03 Dentistry for international students (online educational program, language of instruction is English, Students' Republic of China) and is posted on the educational organization's website.



8. EDUCATIONAL WORK