



MEDICAL UNIVERSITY
“Prof. Dr. Paraskev Stoyanov” Varna
FACULTY OF “DENTAL MEDICINE”

Approved by Faculty Council Protocol No. 12/17.05.2021



SYLLABUS
for
“Hygiene, Preventive Medicine and Epidemiology”

Specialty: **“DENTAL MEDICINE”**

Educational and Qualification Degree: **“MASTER”**

Professional Qualification: **“DOCTOR OF DENTAL MEDICINE”**

Type of Academic Activities	Semester	Weekly Hours	Total Hours
Lectures	VI	4	38
Practical Exercises	VI	4	22
Total Hours			60
Extracurricular Workload			60
Forms of Control	Continuous Assessment		
Credits (ECTS)			4

Lecturers: Prof. Dr. Teodora Dimitrova, MD, PhD; Prof. Dr. Darina Naydenova, MD, PhD; Chief Assistant Prof. Dr. Stanislava Hadzhieva, MD, PhD; Chief Assistant Prof. Dr. Rozalina Braykova, MD, PhD; Chief Assistant Prof. Dr. Dimitar Marinov, MD, PhD; Prof. Dr. Tsonko Paunov, MD, PhD; Assoc. Prof. Dr. Eliyana Ivanova, MD, PhD; Assoc. Prof. Dr. Miglena Kolarova, MD, PhD; Assistant Prof. Dr. Mihaela Kirilova; Assistant Prof. Dr. Desislava Zhekova

Varna, 2026

Annotation

The syllabus in Hygiene and Epidemiology is oriented towards teaching multidisciplinary knowledge, skills, and competencies necessary for the practical activity of doctors of dental medicine in the field of health prevention. Student training is based on a situational approach and adapted to the specific requirements of the specialty in the field of preventive medicine, alongside current issues in modern hygiene and epidemiology.

The curriculum covers the primary sections of hygiene and epidemiology. It includes topics on environment and health, hospital hygiene, nutrition and health, occupational medicine, applied ergonomics, as well as theoretical and applied epidemiology.

A significant portion of the lecture course and practical exercises is dedicated to the special module in hygiene, which relates to health norms and requirements for the design, equipment, and hygienic-technical facilities of primary and specialized dental care clinics, specialized departments, and oral and maxillofacial surgery hospitals, risk assessment at the dental practitioner's workplace, etc. The influence of certain environmental and occupational factors on oral cavity pathology and the relationship between nutrition and dental health are also examined.

Ecological, landscape, spatial epidemiology, and the epidemiology of emerging and re-emerging infections are presented. Applied epidemiology covers disinfection, susceptibility management through immunoprophylaxis, and the epidemiology and prevention of respiratory tract infections, intestinal infections, blood-borne infections (HIV/AIDS, viral hepatitis types B, C, D), skin and mucosal infections, and healthcare-associated infections (HCAI / nosocomial infections). Epidemiological control within dental practice is heavily emphasized.

The teaching incorporates modern concepts and principles regarding these issues, as well as new regulatory documents in the field of State Health Control. The curriculum is adapted to the specialty, coordinated with other disciplines, and meets state requirements for education in hygiene and epidemiology.

Forms of Training, Control, and Evaluation

Forms of Training: Lectures, practical exercises, seminars.

Teaching Methods: Presentations, discussions, role-playing games, case studies, solving situational problems, anti-epidemic activities in foci of acute infectious diseases, and visits to a central sterilization service department.

Forms of Control and Evaluation:

- Continuous assessment - test, independent epidemiological study
- Final control - semester exam in hygiene and epidemiology at the end of the VI semester, which includes an incoming written test, oral examination by habilitated lecturers, and discussion of situational tasks.

Grading Criteria

Excellent (6): The student navigates the recommended literature on a specific topic independently. Displays an original interpretation and a logical presentation of the topic. Formulates adequate findings and conclusions.

Very Good (5): The student independently navigates the recommended literature on a specific topic. Displays correct interpretation, alongside adequate findings and conclusions.

Good (4): The student independently navigates the recommended literature on a specific topic. Displays correct interpretation.

Satisfactory (3): The student can navigate the recommended literature on a specific topic.

Lecture Schedule

№	Topic	Hours
1	Health prevention and dental health. Hygiene as a fundamental preventive discipline. Modern ecological and health problems related to anthropogenic pollution of atmospheric air. Prevention of atmospheric pollution.	2
2	Hygienic-ecological problems of populated areas. Urbanization – health effects and emerging risks. Physical risk factors in the communal environment and their impact on human health.	2
3	Significance of water for human health. Continuous monitoring of drinking water. Diseases related to the chemical composition and bacterial contamination of drinking water. Public health approaches for health and caries-protective prevention.	2
4	Healthy nutrition – a preventive factor for dental health (basic requirements, physiological norms, modern concepts). Alimentary prevention of oral diseases.	2
5	Healthy nutrition during mental work. Eating disorders.	2
6	Working conditions of the doctor of dental medicine – factors of the labor process and working environment. Risk assessment at the workplace. Prevention of occupational diseases in dental practice. Occupational health services – composition and functions.	2
7	Applied ergonomics in dental medicine – basic principles and requirements. Prevention of musculoskeletal disorders in dental practice.	2
8	Physical and biological agents in the working environment of the doctor of dental medicine.	2
9	Toxic agents, dust, and nanomaterials in the working environment of the doctor of dental medicine.	2
10	Healthy lifestyle and its significance for disease prevention and dental health promotion.	2
11	Introduction to epidemiology. Historical-logical formation and development of epidemiological knowledge. Connection of epidemiology with other sciences. Subject, methods, and tasks of epidemiology. Theory of the epidemic process – core links. The source of infection - the first link in the epidemic process. Sources of infection in anthroponoses, zoonoses, and sapronoses.	2

12	Mechanism of transmission of infection - biological determination, phases, types, transmission factors. Modern aspects of the transmission mechanism. Epidemiological classification of infectious diseases.	2
13	Population susceptibility - the third link of the epidemic process. Types of immunity. Managing susceptibility – means, methods, organization. Specific immunoprophylaxis – essence and significance. Biological products for active and passive immunoprophylaxis – characteristics, methods of application, requirements. Immunization calendar of the Republic of Bulgaria. Evaluation of the preventive effectiveness of immunization activities – successes and problems.	2
14	Driving forces of the epidemic process. Social and natural factors. Forms of the epidemic process and types of epidemics. Theoretical foundations and applied epidemiology in infection management (eradication and elimination). Diseases subject to international health regulations (IHR) – epidemiological surveillance and control. Health control and border protection.	2
15	Healthcare-Associated Infections (HCAI/NOSOCOMIAL) - definition, specificity of the epidemic process, risk factors, classification. Etiology of HCAI – problematic microflora. Significant HCAs. Principles of epidemiological surveillance, international control programs. Applied epidemiology - medical standard for prevention and control of HCAs in dental medicine.	2
16	Disinfection, disinsectization, and deratization - definitions, terminology, means, and methods. Applied epidemiology of decontamination in dental practice.	2
17	Characteristics of the epidemic process, epidemiological control, and prevention of respiratory tract infections - measles, mumps, rubella, scarlet fever, influenza, diphtheria, pertussis, epidemic meningitis. Measures for epidemiological control in the epidemic focus and dental practice.	2
18	Characteristics of the epidemic process, epidemiological control, and prevention of skin/mucosal infections, blood-borne infections, and infections with multiple transmission mechanisms (viral hepatitis B, C, D and HIV/AIDS). Tropical medicine. Measures for epidemiological control in the epidemic focus and dental practice.	2
19	Characteristics of the epidemic process, epidemiological control, and prevention of intestinal infections - dysentery, salmonellosis, coli-enteritis, poliomyelitis, viral hepatitis A and E. Measures for epidemiological control in the epidemic focus and dental practice.	2
	Total:	38 academic hours

Practical Exercises Schedule

№	Topic	Hours
1	Health standards and requirements for drinking water quality. Fluoride prevention of dental caries. Situational tasks.	2
2	Nutritional characteristics of children, students, and during specific physiological states (pregnancy and lactation). Alimentary prevention of diseases of hard dental tissues (dental caries, dental erosion). Evaluation of a daily menu and compiling a selection of food products and drinks with a caries-protective focus. Situational tasks.	2
3	Methods for investigation and evaluation of physical development, physical capability, and health status of children and students. Situational tasks. Test 1	2
4	Assessment of hygienic-technical facilities in clinics for primary and specialized dental care and departments for oral and maxillofacial surgery. Microclimate as a workplace environment factor - complex evaluation of its effect on the human body. Situational tasks.	2
5	Psychophysiological methods and indicators for assessing work capacity and fatigue in modern forms of labor. Prevention of fatigue. Physiological regimes of work and rest. Situational tasks.	2
6	Risk assessment at the workplace. Occupational-physiological and ergonomic characteristics of the profession of a doctor of dental medicine. Ergonomic assessment of working posture. Situational tasks. Test 2	2
7	Organization of epidemiological surveillance and control of infectious diseases in the Republic of Bulgaria – structure, goals, and tasks. International cooperation to master and prevent threats to human health of microbial nature – WHO and ECDC. Epidemiological investigation in a focus of acute infectious disease – essence, goals, and stages. Anti-epidemic and preventive measures regarding the patient, contacts, and the surrounding environment. Applied epidemiology: work in an epidemic focus, management of epidemiological documentation – rapid notification, epidemiological investigation card, accounting and reporting forms.	2
8	Epidemiological investigation in a focus of intestinal infections – organization and implementation of anti-epidemic and preventive measures. Surveillance of the epidemic focus. Applied epidemiology: characteristics of epidemiological investigation in a focus of shigellosis, salmonellosis, coli-enteritis, enterocolitis. Epidemiological investigation for patients with acute viral hepatitis.	2
9	Epidemiological investigation in a focus of respiratory tract infections – organization and implementation of anti-epidemic and preventive measures. Specific immunoprophylaxis – types of immunizations,	2

	planning, and organization of implementation. Applied epidemiology: characteristics of epidemiological investigation in a focus of varicella, measles, epidemic mumps, rubella, diphtheria, pertussis, scarlet fever, influenza, staphylococcal infections, meningococcal infections, legionellosis. Biological products for immunoprophylaxis – types, methods of application, storage requirements. Post-vaccination reactions and complications. Immunization calendar of the Republic of Bulgaria. Accounting and reporting forms.	
10	Disinfection - definition, types, methods – physical and chemical. Asepsis and antisepsis. Sterilization. Control methods. Main groups of chemical disinfectants - properties, forms, and methods of application. High-level disinfection. Applied epidemiology: Familiarization with the operating principles of sterilization equipment. Preparation of disinfectant solutions and methods of application. Operation of the Central Sterile Supply Department (CSSD).	2
11	Epidemiological investigation in a focus of blood-borne (transmissible) and skin/mucosal infections – organization and implementation of anti-epidemic and preventive measures. Applied epidemiology: Epidemiology and post-exposure prophylaxis of blood-borne (HIV/AIDS, Viral hepatitis types B, C, and D, CCHF) and skin/mucosal infections (anthrax, foot-and-mouth disease, tetanus, rabies).	2
	Total:	22 academic hours

Literature

1. Hygiene, a textbook for students of dental medicine and other medical specialties; edited by Prof. Dr. T. Tarnovska, MD, PhD, DMSc; Plovdiv: Lax Book; 2021; 381-388; ISBN: 978-619-189-160
2. Hygiene, Nutrition and Epidemiology (textbook for students of dental medicine and pharmacy), edited by Prof. B. Popov, Sofia, 2007
3. Hygiene, Nutrition and Occupational Diseases, edited by Prof. B. Popov, Sofia, 2009.
4. Glinenko, V.M., V.A. Kataeva, A.M. Lakshin, S.G. Fokin. Human Hygiene and Ecology (textbook), "MIA", Moscow, 2010.
5. Manual for practical exercises in hygiene for students of dental medicine, edited by Prof. Dr. T. Tarnovska, MD, PhD, DMSc, Plovdiv, Medical Publishing House "Raykov", 2019
6. Hristova, D.N. Eating disorders. Aspects from the clinical practice of the physician in nutrition and dietetics. Varna, MU-Varna, 2022. 161 p.
7. Epidemiology of Infectious Diseases, edited by T. Dimitrova, "ARSO- KP" EOOD, Sofia, 2012 (2017).
8. Epidemiology of Infectious Diseases, edited by N. Ribarova, "SIMELPRES", Sofia, 2017.
9. Manual on Disinfection and Sterilization in Medical and Dental Practices, edited by L. Angelov, VAP, Plovdiv, 2006.
10. Manual for practical exercises in epidemiology of infectious diseases, edited by N. Ribarova, "SIMELPRES", Sofia, 2012.

EXAM SYLLABUS

1. Types of health prevention and their relationship to dental health. Hygiene as a fundamental preventive discipline – subject, significance, and connection with other sciences.
2. Ecopathology.
3. Atmospheric air pollution – sources, classification of atmospheric pollutants, conditions influencing atmospheric pollution.
4. Modern ecological problems related to the anthropogenic pollution of atmospheric air.
5. Health problems from the direct impact of atmospheric pollutants. Prevention of atmospheric pollution.
6. Hygienic-ecological problems of populated areas. Urbanization – health effects and emerging risks.
7. Physical risk factors in the communal environment and their impact on human health.
8. Significance of water for human health. Monitoring of drinking water – goal, types, health requirements for drinking water.
9. Continuous monitoring of drinking water – goal, characteristics of indicators, health standards, and evaluation.
10. Diseases related to the chemical composition of drinking water – characteristics of the main groups of diseases.
11. Public health approaches for fluoride prevention of dental caries.
12. Epidemiological role of water in spreading the causative agents of infectious diseases. Prevention of anthropogenic contamination of water sources for drinking water.
13. Environmental law.
14. Types of healthcare facilities. Health standards and requirements for outpatient healthcare facilities where medical activity is performed by doctors of dental medicine. Hygienic-technical facilities.
15. Health standards and requirements for specialized healthcare facilities – surgical department (clinic, hospital) for oral and maxillofacial surgery and operating rooms. Hygienic-technical facilities.
16. Modern forms of labor. Physiological changes in the body during mental work. Characteristics of the labor process factors among dental doctors.
17. Work capacity, fatigue, overfatigue. Prevention.
18. Working conditions of the doctor of dental medicine – physical risk factors and biological agents in the working environment of the doctor of dental medicine.
19. Applied ergonomics in dental medicine.
20. Physiological and ergonomic characteristics of the profession of a doctor of dental medicine – occupational-physiological risk assessment of the working posture.
21. Toxic agents in the working environment of the doctor of dental medicine.
22. Dust and nanomaterials as a risk factor of the working environment in dental practice.
23. Microclimate – health standards and requirements for microclimatic factors. Core types of microclimate in the working environment.
24. Physiological methods for the complex evaluation of the microclimatic factors' impact on the human body. Prevention of adverse effects.
25. Risk assessment at the workplace of the doctor of dental medicine. Occupational health services.

26. Professional sensitization and intoxications related to dental practice. Prevention.
27. Current problems of population nutrition in Bulgaria.
28. Healthy nutrition – basic principles, requirements, physiological norms.
29. Healthy nutrition – a preventive factor for dental health. Alimentary prevention of oral diseases.
30. Healthy nutrition during pregnancy and lactation. Alimentary prevention of the dental health of pregnant and lactating women with insufficient intake of vitamin D and calcium.
31. Healthy nutrition of children and students. Healthy nutrition during mental work.
32. Healthy nutrition in advanced and old age.
33. Alternative models of nutrition.
34. Eating disorders.
35. Healthy lifestyle and its significance for disease prevention.
36. Age periodization. Specific diseases for school age – current trends in the structure of chronic non-infectious morbidity. Main directions of prevention.
37. Physical development and physical capability – physiological significance, methods, and indicators for investigation and evaluation. Calendar and biological age.
38. Acceleration.
39. Formation and development of epidemiological knowledge. Connection of epidemiology with other sciences. Subject, methods, and tasks of epidemiology.
40. Epidemic process. Forms of manifestation. Seasonality and cyclicity.
41. Source of infection. Types of sources. Anti-epidemic measures regarding the source of infection.
42. Mechanism of transmission of infection. Types of mechanisms. Pathways and transmission factors. Anti-epidemic measures to interrupt the transmission mechanism.
43. General preventive and anti-epidemic measures in a focus of acute infectious disease.
44. Susceptibility and non-susceptibility from an epidemiological perspective. Types of immunity. Immunoprophylaxis. Immunization calendar.
45. Natural and social factors and their influence on the epidemic process. Natural focality.
46. Epidemiological classification of infectious diseases. Types of epidemics. Anti-epidemic and preventive measures during foodborne, waterborne, and other epidemics.
47. Liquidation of acute infectious diseases. General and specific requirements for liquidation and elimination. Criteria for proven liquidation.
48. Epidemiological surveillance of infectious diseases in the Republic of Bulgaria. International health requirements in the fight against acute infectious diseases.
49. Disinfection – essence, concepts, methods. Types of disinfection. Requirements for disinfectants. Methods of disinfection: biological, mechanical, physical.
50. Chemical method of disinfection. Essence, requirements for biocides. Classification of biocidal products. Monitoring and quality control of disinfection.
51. Disinfection in dental practice. Evaluation of infectious risk. Choice of decontamination method. Hand disinfection.
52. Monitoring and quality control of disinfection.
53. Sterilization – essence. Methods for sterilization of medical devices. Quality control of sterilization. Central Sterile Supply Department (CSSD).
54. HCAI/Nosocomial infections – definition, specific characteristics. Classification. Epidemic process in HCAI. Etiology and problematic microorganisms. Significant HCAs. Organization of epidemiological surveillance.
55. Epidemic process in rubella, measles, epidemic mumps. Anti-epidemic measures in the epidemic focus.

56. Epidemic process in scarlet fever, varicella, epidemic meningitis. Anti-epidemic measures in the epidemic focus.
57. Epidemic process in diphtheria and pertussis. Anti-epidemic measures in the epidemic focus.
58. Epidemic process in influenza. Anti-epidemic measures in the epidemic focus.
59. Epidemic process in intestinal infections – shigellosis, salmonellosis, coli-enteritis. Anti-epidemic measures in the epidemic focus.
60. Epidemic process in viral hepatitis types A and E. Anti-epidemic measures in the epidemic focus.
61. Epidemic process in viral hepatitis types B, C, and D. Anti-epidemic measures in the epidemic focus.
62. Epidemic process in HIV/AIDS. Post-exposure prophylaxis in medical practice.
63. Tick-borne infections – Boutonneuse fever and Lyme disease. Anti-epidemic measures in the epidemic focus.
64. Viral tick-borne infections – Crimean-Congo hemorrhagic fever and Hemorrhagic fever with renal syndrome.
65. Diseases subject to international health control: cholera, plague, yellow fever. Anti-epidemic measures in the epidemic focus and prevention.
66. Epidemic process in skin/mucosal infections – anthrax, tetanus, and rabies. Preventive and anti-epidemic measures.

The syllabus was adopted at:

Departmental Council of the Department of Hygiene and Epidemiology	Protocol № 413 / 07.05.2026
Program Council	Protocol № 101/26.05.2026
Faculty Council	Protocol № 102/27.05.2026

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