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**Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
RUDN University**

Medical Institute

educational division (faculty/institute/academy) as higher education program developer

COURSE SYLLABUS

EPIDEMIOLOGY

(Course title)

Recommended by the Didactic Council for the Education Field of:

31.05.03 «GENERAL DENTISTRY»

field of studies / specialty code and title

The course instruction is implemented within the professional education program of higher education:

31.05.03 «GENERAL DENTISTRY»

higher education program profile/specialization title

2024

1 GOALS AND OBJECTIVES OF THE COURSE-

The goals and objectives of the course is to develop the theoretical and practical skills of students to prevent infectious diseases in dental medical settings, among various population categories at individual and group and levels, as well as in emergency situations.

2 TRAINING REQUIREMENTS

The training program for students is aimed at developing the following competencies

General Competences (UC)- UC-8. (UC-8.3., UC-8.4.);

General Professional Competences (GPC)- GPC-7. (GPC-7.1.);

Professional Competences (PC)- PC-4. (PC-4.1.)

(Training requirements in accordance with the federal state educational standards of higher education (FSSES) 3++ 31.05.03 General dentistry).

Table 2.1. List of course competencies requirements (and the results of completing the course)

Universal Competence Category	Universal Competence Code and Name	Universal Competence Achievement Indicator Code and Name
Life safety	UC-8. Being able to create and maintain safe conditions in everyday life and professional activity to protect natural environment, ensure sustainable development of society, including in the event of a threat and occurrence of emergencies and military conflicts.	UC-8.3. Solving problems related to unsafe behavior and participating in activities to prevent emergencies in the workplace. UC-8.4. Observing and explaining the rules of behavior in case of emergencies of natural and man-made origin; providing first aid; participating in recovery activities.
General Professional Competence Category	General Professional Competence Code and Name	General Professional Competence Achievement Indicator Code and Name
Disease diagnosis and treatment	GPC-7. Being able to organize work and take professional decisions in case of emergency conditions, amid emergencies, epidemics, and in the foci of mass destruction	GPC-7.1. Being able to use the algorithm for providing first aid in emergency conditions, including in extreme conditions and foci of mass destruction.
Professional Competence Name	Professional Competence Code	Professional Competence Achievement Indicator Code and Name
Theoretical and practical foundations of	PC-4. Being able to conduct and monitor the effectiveness of sanitary, anti-epidemic and other	PC-4.1. Conducting brief preventive counseling, preventive examinations of the population and measures to reduce morbidity, including infectious diseases, disability,

Universal Competence Category	Universal Competence Code and Name	Universal Competence Achievement Indicator Code and Name
professional activity. Dental disease prevention	preventive measures to protect public health	mortality, lethality.

3.THE COURSE IN THE HIGHER EDUCATION PROGRAMME STRUCTURE

This course «Epidemiology» refers to the Compulsory Disciplines of block B1 of the EP HE. Within the framework of the Educational Program, students also master other disciplines and/or practices that contribute to expected learning outcomes of this course.

Table 3.1. List of courses that contribute to expected learning/training outcomes

Code	Competences	Previous module	Subsequent module
UC-8.	Being able to create and maintain safe conditions in everyday life and professional activity to protect natural environment, ensure sustainable development of society, including in the event of a threat and occurrence of emergencies and military conflicts	Biology, Immunology	Internal medicine
GPC-7.	Being able to organize work and take professional decisions in case of emergency conditions, amid emergencies, epidemics, and in the foci of mass destruction	Hygiene	Clinical pharmacology, Head and neck diseases
PC-4	Being able to conduct and monitor the effectiveness of sanitary, anti-epidemic and other preventive measures to protect public health	Hygiene	Clinical pharmacology, Head and neck diseases

4. THE COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total course workload is equal to 2 credits.

Table 4.1. Types of academic activities during the period of the HE program

Type of academic activity	Total hours	Semesters	
		8	
Classroom activities, <i>academic hours</i>	48	48	
<i>Lectures (Lec)</i>	2	2	
Practical/seminar classes (SC)	46	46	
<i>Laboratory work (LW)</i>	-	-	
Self-study	18	18	
Overall assessment	6	6	
Total workload of the discipline	ac.h.	72	
	credits	2	

5. CONTENT OF THE COURSE

Table 5.1. Academic activity and the content of course

Modules and Topics	Content of the topics	Type of academic activities
Module 1. General epidemiology. Epidemiological method and evidence-based medicine. Epidemiological studies.	1.1 Short history of the epidemiology development. Epidemiological method (analysis). 1.2 Establishing an epidemiological diagnosis. The kinds of epidemiological research.	Lec
Module 2. Epidemic process. Epidemiological surveillance.	2.1 L.V. Gromashevsky's role in the study about the epidemic process – three interconnecting elements: a source of infection, a mechanism of transmission and a susceptible organism. 2.2 Indicators of the epidemic process. Antiepidemic measures. The basis of preventive measures organization. Levels of prevention. The epidemiological surveillance as a subsystem of the social-hygienic monitoring (SHM).	Lec
Module 3. Saprotoxic and highly contagious infections.	3.1 Highly contagious disease 3.2 Sources, reservoirs of highly contagious diseases	SC

Module 4. Disinfection, sterilization.	4.1 The definition of disinfection. Types of disinfection: prophylactic and nidal (current and final). 4.2 Control of respiratory infections, enteric infections and highly contagious diseases. 4.3 Sterilization cleaning of medical instrument 4.4 Insect control 4.5 Rodent control	SC
Module 5. Immunoprophylaxis of infectious diseases.	5.1 Definition of immunoprophylaxis. Theoretical basis of immunoprevention. 5.2 The schedules for immunoprophylaxis . Active and passive immunoprophylaxis. Post-exposure immunoprophylaxis.	SC
Module 6. Infectious disease epidemiology. Epidemiology of socially significant infections.	6.1 The content of this section is defined by the actual epidemic situation and calendar plan of study course of infectious diseases. 6.2 Epidemiological characteristics of deadly infectious diseases. Organization of antiepidemic and preventive measures.	SC
Module 7. Epidemiology and prophylaxis of nosocomial infections.	7.1 Definition of nosocomial infections. Epidemiological, economic significance of hospital infections. 7.2 Common pathogens of nosocomial infections and their sources. Prevention of nosocomial diseases in medical staff. Post-exposure prevention of HIV, hepatitis viruses (B, C, D). 7.3 Exogenous and endogenous infections	SC
Module 8. Epidemiology of emergency situations.	8.1 Definition of the “emergency situation”. 8.2 Classification of catastrophes. Basic principles of medical aid and epidemic control organization in the area affected by an emergency.	SC

6. CLASSROOM INFRASTRUCTURE AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom Infrastructure and Technology Support Requirements

Type of lesson activity	Available equipment	Special (additional) equipment (if available)
Lecture	Auditorium for lectures equipped with a set of specialized furniture;	Academic Activity Type – Lecture/Seminars/Computer

Type of lesson activity	Available equipment	Special (additional) equipment (if available)
	board (screen) and technical means of multimedia presentations.	Lab/Self-studies Classroom equipped with a set of specialized furniture; whiteboard; a set of devices includes portable multimedia projector, laptop, projection screen, stable wireless Internet connection. Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), Skype
Seminer	Auditorium for conducting seminars, group and individual consultations, assessment control and intermediate certification, equipped with a set of furniture and technical means for multimedia presentations.	Set of specialized furniture; whiteboard; a set of devices includes portable multimedia projector, laptop, projection screen, stable wireless Internet connection. Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release)
Self-study	Auditorium for self-study (can be used for seminars and student consultations), equipped with set of furniture and computers with access to the virtual materials.	Set of furniture; technical support including Internet access. Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release)

7. RECOMMENDED SOURCES for COURSE STUDIES

Main sources:

1. Bojdani, Ermal. 2017. "Essential Epidemiology: An Introduction for Students and Health Professionals, Third Edition." The Yale Journal of Biology and Medicine 90 (2): 345. Permanent link <http://nrs.harvard.edu/urn-3:HUL.InstRepos:3349070>
2. Gordis Epidemiology, 6th Edition 2019
3. Epidemiology 101 (Essential Public Health) – 2017 by Robert H. Friis
4. Essentials of Infectious Disease Epidemiology (Essential Public Health) Paperback – 21 Aug. 2007 by Magnus (Author)#
5. Infectious Disease Epidemiology, Third Edition Paperback – 26 April 2013 by Nelson (Author)
6. Harrison's infectious diseases 3rd edition by Dennis Kasper and Anthony S Fauci
7. Essentials of Clinical Infectious Diseases by William Floyd Wright.
8. Medical Microbiology and Infection at a Glance Fourth edition Stephen H. Gillespie Kathleen B. Bamford.

9. Infectious diseases: textbook / Yushchuk N. D., Vengerov Yu. Ya. - Moscow: GEOTAR-Media, 2020. - 464 p. - ISBN 978-5-9704-5504-3.

Optional reading sources:

1. International Journal of Epidemiology | Oxford Academic (oup.com)
2. Environmental Epidemiology Principles and Methods (Kindle Edition) Ray M. Merrill 2008
3. Epidemiology for Public Health Practice (Kindle Edition) Robert H. Friis, Thomas Sellers 2020
4. Foundations of Infectious Disease A Public Health Perspective: A Public Health Perspective David P Adams 2020
5. Essential Readings In Infectious Disease Epidemiology Manya Magnus 2008
6. Epidemiology Lecture Notes (PDF 86P); This note covers the following topics: Introduction to Epidemiology, Disease Causation, Levels of prevention, Concepts in the infectious diseases, Descriptive Epidemiology, Measurements of Morbidity and Mortality, Epidemic Investigation and Management, Epidemiological Surveillance Author(s): Yigzaw Kebede, University of Gonda
https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/env_occupational_health_students/Epidemiology.pdf
7. Epidemiology of Infectious Diseases; This book introduces the basic methods for infectious disease epidemiology and case studies of important disease syndromes and entities. Methods include definitions and nomenclature, outbreak investigations, disease surveillance, case control studies, cohort studies, laboratory diagnosis, molecular epidemiology. Author(s): Johns Hopkins University
8. Epidemiology and Public Health; This note explains the following topics: History of Epidemiology and Public Health, Disease Transmission, Measures of Morbidity, Measures of Mortality, Mortality in Different Populations, Transmissible Spongiform Encephalopathy, Arteriosclerosis and Coronary Heart Disease, Influenza. Author(s): David M. Rollins
9. Epidemiology and public health; a text and reference book for physicians, medical students and health workers; This note explains the following topics: Respiratory infections, Nutritional disorders, alimentary infections and percutaneous infections. Author(s): Victor Clarence Vaughn
10. Basic Epidemiology (PDF 226P); This note covers the following topics: What is epidemiology, Measuring health and disease, Basic biostatistics: concepts and tools, Causation in epidemiology, Epidemiology and prevention: chronic

noncommunicable diseases, Types of studies, Communicable diseases: epidemiology surveillance and response, Clinical epidemiology, Environmental and occupational epidemiology, Epidemiology, health policy and planning, First steps in practical epidemiology. Author(s): R Bonita, R Beaglehole and T Kjellstrom-

http://apps.who.int/iris/bitstream/handle/10665/43541/9241547073_eng.pdf;jsessionid=81A07B357E56EFD3C7B080EFD32DEC38?sequence=1

Internet (based) sources:

1. Electronic libraries with access for RUDN students:

- RUDN Electronic Library – RUDN EL <http://lib.rudn.ru/MegaPro/Web>
- University Electronic Library» <http://www.biblioclub.ru>
- <http://www.biblio-online.ru>
- Student library (consult) www.studentlibrary.ru
- Lan <http://e.lanbook.com/>
- Trinity Bridge

2. Databases and search engines:

- electronic fund of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search engine <https://www.yandex.ru/>
- Google search engine <https://www.google.ru/>
- abstract database SCOPUS <http://www.elsevierscience.ru/products/scopus/>

Learning toolkits for self- studies in the RUDN LMS TUIS *

1. Guidelines for the implementation and completion of self-study and assessment - <https://esystem.rudn.ru/course/view.php?id=8186>

* - all educational and methodological materials for independent work of students are placed in accordance with the current procedure on the course section in our virtual education website TUIS!

8. EVALUATION TOOLKIT AND GRADE SYSTEM FOR ASSESSMENT

Evaluation and grading system* for the course are indicated and uploaded in our virtual education website TUIS - <https://esystem.rudn.ru/course/view.php?id=8186>

* - Evaluation and grading system are based on the relevant local normative act of the Peoples' Friendship University of Russia.

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