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**Federal State Autonomous Educational Institution of Higher Education  
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA  
NAMED AFTER PATRICE LUMUMBA  
RUDN University  
Institute of Medicine**

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

## **COURSE SYLLABUS**

Epidemiology

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course title

**Recommended by the Didactic Council for the Education Field of:**

31.05.03 Dentistry

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field of studies / speciality code and title

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

Dentistry

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higher education programme profile/specialisation title

**2026.**

## 1. COURSE GOAL(s)

The goal 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. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) is aimed at the development of the following competences /competences in part: GC-8, GPC-7, PC-4.

*Table 2.1. List of competences that students acquire through the course study*

Competence code	Competence descriptor	Competence formation indicators (within this course)
GC-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.	GC-8.3. Solving problems related to unsafe behavior and participating in activities to prevent emergencies in the workplace.
		GC-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.
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.
PC-4.	Being able to conduct and monitor the effectiveness of sanitary, anti-epidemic and other preventive measures to protect public health	PC-4.1. Conducting brief preventive counseling, preventive examinations of the population and measures to reduce morbidity, including infectious diseases, disability, mortality, lethality.

## 3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective\* component of (B1) block of the higher educational programme curriculum.

\* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

*Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results*

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
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	Biology, Immunology	Internal medicine

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
	conflicts		
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

\* To be filled in according to the competence matrix of the higher education programme.

#### 4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course is 2 credits (72 academic hours)

Table 4.1. Types of academic activities during the periods of higher education programme mastering (**full-time training**)\*

Type of academic activities	Total academic hours	Semesters/training modules			
		8			
<i>Contact academic hours</i>	51	51			
including:					
Lectures (LC)					
Lab work (LW)	51	51			
Seminars (workshops/tutorials) (S)					
<i>Self-studies</i>	15	15			
<i>Evaluation and assessment (exam/passing/failing grade)</i>	6	6			
<b>Course workload</b>	academic hours	<b>108</b>	<b>108</b>		
	credits	<b>3</b>	<b>3</b>		

\* To be filled in regarding the higher education programme correspondence training mode.

#### 5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
<b>Module 1.</b> General epidemiology. Epidemiological method and evidence-based medicine. Epidemiological studies.	<b>1.1</b> Short history of the epidemiology development. Epidemiological method (analysis). <b>1.2</b> Establishing an epidemiological diagnosis. The kinds of epidemiological research.	LW

<b>Module 2.</b> Epidemic process. Epidemiological surveillance.	<b>2.1</b> 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. <b>2.2</b> 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).	LW
<b>Module 3.</b> Sapronotic and highly contagious infections.	<b>3.1</b> Highly contagious disease <b>3.2</b> Sources, reservoirs of highly contagious diseases	LW
<b>Module 4.</b> Disinfection, sterilization.	<b>4.1</b> The definition of disinfection. Types of disinfection: prophylactic and nidal (current and final). <b>4.2</b> Control of respiratory infections, enteric infections and highly contagious diseases. <b>4.3</b> Sterilization cleaning of medical instrument <b>4.4</b> Insect control <b>4.5</b> Rodent control	LW
<b>Module 5.</b> Immunoprophylaxis of infectious diseases.	<b>5.1</b> Definition of immunoprophylaxis. Theoretical basis of immunoprevention. <b>5.2</b> The schedules for immunoprophylaxis . Active and passive immunoprophylaxis. Post-exposure immunoprophylaxis.	LW
<b>Module 6.</b> Infectious disease epidemiology. Epidemiology of socially significant infections.	<b>6.1</b> The content of this section is defined by the actual epidemic situation and calendar plan of study course of infectious diseases. <b>6.2</b> Epidemiological characteristics of deadly infectious diseases. Organization of antiepidemic and preventive measures.	LW
<b>Module 7.</b> Epidemiology and prophylaxis of nosocomial infections.	<b>7.1</b> Definition of nosocomial infections. Epidemiological, economic significance of hospital infections. <b>7.2</b> 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). <b>7.3</b> Exogenous and endogenous infections	LW
<b>Module 8.</b> Epidemiology of emergency situations.	<b>8.1</b> Definition of the “emergency situation”. <b>8.2</b> Classification of catastrophes. Basic principles of medical aid and epidemic control organization in the area affected by an emergency.	LW

\* - to be filled in only for **full**-time training: *LC* - lectures; *LW* - lab work; *S* - seminars.

## 6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

*Table 6.1. Classroom equipment and technology support requirements*

<b>Classroom for Academic Activity Type</b>	<b>Classroom Equipment</b>	<b>Specialized educational/laboratory equipment, software and materials for mastering the course (if necessary)</b>
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Seminar	Classroom for conducting seminar-type classes, group and individual consultations, ongoing assessment and interim certification, equipped with a set of specialized furniture and multimedia presentation technical equipment.	Set of specialized furniture; technical equipment: multimedia projector, laptop, internet access available. Software: Microsoft products (OS, office suite, including MS Office/Office 365, Teams), Yandex Telemost.
Self-studies	Classroom for self-studies of students (may be used for seminar classes and consultations), equipped with a set of specialized furniture and computers with access to the Electronic Information and Educational Environment.	Set of specialized furniture; technical equipment: internet access available.

## 7. RECOMMENDED SOURCES FOR COURSE STUDIES

### *Main readings:*

1. Epidemiology: textbook / N.I. Briko, V.I. Pokrovsky. - Moscow: GEOTAR-Media, 2024-552 p.: ill. - ISBN 978-5-9704-8555-2. URL: <https://medknigaservis.ru/product/epidemiology-textbook-ed-n-i/>
2. Gordis, L. (2014). *Epidemiology* (5th ed.). Elsevier Saunders. <https://shop.elsevier.com/books/epidemiology/gordis/978-1-4557-3733-8>
3. Aschengrau, A., & Seage, G. R. (2020). *Essentials of Epidemiology in Public Health* (4th ed.). Jones & Bartlett Learning. [file:///C:/Users/IdeaPad/Downloads/Essentials%20of%20Epidemiology%20in%20Public%20Health%20by%20Ann%20Aschengrau,%20ScD%20George%20R.%20Seage,%20ScD%20\(z-lib.org\).pdf](file:///C:/Users/IdeaPad/Downloads/Essentials%20of%20Epidemiology%20in%20Public%20Health%20by%20Ann%20Aschengrau,%20ScD%20George%20R.%20Seage,%20ScD%20(z-lib.org).pdf)
4. Friis, R. H., & Sellers, T. A. (2021). *Epidemiology for Public Health Practice* (6th ed.). Jones & Bartlett Learning. [https://books.google.ru/books/about/Epidemiology\\_for\\_Public\\_Health\\_Practice.html?id=dC\\_XDwAAQBAJ&redir\\_esc=y](https://books.google.ru/books/about/Epidemiology_for_Public_Health_Practice.html?id=dC_XDwAAQBAJ&redir_esc=y)
5. Rothman, K. J., Greenland, S., & Lash, T. L. (2008). *Modern Epidemiology* (3rd ed.). Lippincott Williams & Wilkins. [https://catalog.nlm.nih.gov/discovery/fulldisplay/alma9913157413406676/01NLM\\_INST:01NLM\\_INST](https://catalog.nlm.nih.gov/discovery/fulldisplay/alma9913157413406676/01NLM_INST:01NLM_INST)
6. Szklo, M., & Nieto, F. J. (2019). *Epidemiology: Beyond the Basics* (4th ed.). Jones & Bartlett Learning. [https://books.google.ru/books/about/Epidemiology.html?id=TuJrwZEIY3UC&redir\\_esc=y](https://books.google.ru/books/about/Epidemiology.html?id=TuJrwZEIY3UC&redir_esc=y)
7. Haynes, R. B., Sackett, D. L., Guyatt, G. H., & Tugwell, P. (2006). *Clinical Epidemiology: How to Do Clinical Practice Research* (3rd ed.). Lippincott Williams & Wilkins. [https://books.google.ru/books/about/Clinical\\_Epidemiology.html?id=cuvY6TItIwgC&redir\\_esc=y](https://books.google.ru/books/about/Clinical_Epidemiology.html?id=cuvY6TItIwgC&redir_esc=y)
8. Heymann, D. L. (Ed.). (2014). *Control of Communicable Diseases Manual* (20th ed.). American Public Health Association. <https://www.amazon.com/Control-Communicable-Diseases-Manual-Heymann/dp/0875530184>

9. Gregg, M. B. (Ed.). (2008). *Field Epidemiology* (3rd ed.). Oxford University Press. [https://books.google.ru/books/about/Field\\_Epidemiology.html?id=FaKaTvflBGQC&redir\\_esc=y](https://books.google.ru/books/about/Field_Epidemiology.html?id=FaKaTvflBGQC&redir_esc=y)
10. Beaglehole, R., Bonita, R., & Kjellstrom, T. (1993). *Basic Epidemiology*. World Health Organization. <https://iris.who.int/server/api/core/bitstreams/47b3f1a2-d30c-418c-960c-5f8d80011432/content>

#### **Additional (optional) & Open Access Resources**

1. Centers for Disease Control and Prevention (CDC). (2012). *Principles of Epidemiology in Public Health Practice* (3rd ed.). Self-Study Course SS1978. Retrieved from <https://www.cdc.gov/csels/dsepd/ss1978/>
2. World Health Organization (WHO). (n.d.). *WHO Basic Epidemiology Textbook*. Retrieved from <https://www.who.int/tools/epidemiology>
3. Centers for Disease Control and Prevention (CDC). (2011). *Field Epidemiology in Action Reference Guide*. Retrieved from <https://www.cdc.gov/eis/field-epi-manual/index.html>
4. **Centers for Disease Control and Prevention.** (2021). *Epidemiology and prevention of vaccine-preventable diseases* (E. Hall, A. P. Wodi, J. Hamborsky, V. Morelli, & S. Schillie, Eds.; 14th ed.). Public Health Foundation. <https://www.merle-arbeitsmedizin.de/wp-content/uploads/2022/02/CDC-Pink-Book-Version-14th-Edition.pdf>

#### **Internet-based sources:**

1. Electronic libraries with access for RUDN students:
  - RUDN Electronic Library System – ELS RUDN <https://mega.rudn.ru/MegaPro/Web>
  - ELS "University Library Online" <http://www.biblioclub.ru>
  - ELS Yurayt <http://www.biblio-online.ru>
  - ELS "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)
  - ELS "Znaniy" <https://znaniy.ru/>
2. Databases and search engines:
  - Sage <https://journals.sagepub.com/>
  - Springer Nature Link <https://link.springer.com/>
  - Wiley Journal Database <https://onlinelibrary.wiley.com/>
  - Scientometric database [Lens.org](https://www.lens.org) <https://www.lens.org>

### **8. ASSESSMENT TOOLKIT AND GRADING SYSTEM\* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION**

The assessment toolkit and the grading system\* to evaluate the competences formation level (GC-8, GPC-7, PC-4) upon the course study completion are specified in the Appendix to the course syllabus.

\* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

#### **DEVELOPERS:**

Associate Professor- Department  
of Infectious Diseases,  
Epidemiology and Phthiology  
\_\_\_\_\_  
position, department

\_\_\_\_\_  
signature

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