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

Institute of Medicine

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

COURSE SYLLABUS

Epidemiology

course title

Recommended by the Didactic Council for the Education Field of:

31.05.03 Dentistry

field of studies / speciality code and title

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

Dentistry

higher education programme profile/specialisation title

2022-2023

1. COURSE GOAL(s)

The goal of the course “Epidemiology” is to equip students with the knowledge of 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) “Epidemiology is aimed at the development of the following competences /competences in part: **General Competences (GC)- GC-8. (GC-8.3., GC-8.4.); General Professional Competences (GPC)- GPC-7. (GPC-7.1.); Professional Competences (PC)- PC-4. (PC-4.1.)**

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.	Able to create and maintain safe living conditions in everyday life and in professional activity, including in the event of emergencies and military conflicts	GC-8.3. Resolves issues related to safety violations and participates in emergency prevention activities in the workplace.
		GC-8.4. Observes and explains the rules of conduct in the event of emergencies of natural and man-made origin, provides first aid, participates in recovery activities.
GPC-7.	Able to organize work and make professional decisions in case of emergency, in emergencies, epidemics and in outbreaks of mass destruction	GPC-7.1. Knows: methodology for collecting complaints and anamnesis from patients (their legal representatives); method of physical examination of patients (examination, palpation, percussion, auscultation); principles and methods of providing medical care to patients in emergency conditions, in emergencies, epidemics and in outbreaks of mass destruction in accordance with the procedures for the provision of medical care, clinical guidelines, taking into account the standards of medical care; clinical signs of major emergencies; principles of medical evacuation in emergencies, epidemics and in outbreaks of mass destruction; principles of work in the outbreaks of mass destruction
PC-4	Capable of carrying out and monitoring the effectiveness of sanitary and anti-epidemic and other preventive measures to protect public health	PC-4.1. Conduct preventive counseling, examinations of the population and take measures to reduce morbidity of infectious diseases, including disability as a consequence.

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*
GC-8. (GC-8.3., GC-8.4.)	Able to create and maintain safe living conditions in everyday life and in professional activity, including in the event of emergencies and military conflicts	Biology, Immunology	Internal medicine
GPC-7. (GPC-7.1)	Able to organize work and make professional decisions in case of emergency, in emergencies, epidemics and in outbreaks of mass destruction	Hygiene	Clinical pharmacology, Head and neck diseases
PC-4 (PC-4.1)	Capable of carrying out and monitoring the effectiveness of sanitary and 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 “Epidemiology” 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>	48	48	
including:			
Lectures (LC)	2	2	
Seminars (workshops/tutorials) (S)	46	46	
Lab work (LW)	-	-	
<i>Self-studies</i>	18	18	
<i>Evaluation and assessment (exam/passing/failing grade)</i>	6	6	
Course workload	academic hours	72	
	credits	2	

* 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
Module 1. General epidemiology. Epidemiological method and evidence-based medicine. Epidemiological studies.	1.1 Short history of the epidemiology development. Epidemiological method (analysis).	Lec
	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.	Lec
	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).	S
Module 3. Sapronotic and highly contagious infections.	3.1 Highly contagious disease	S
	3.2 Sources, reservoirs of highly contagious diseases	S
Module 4. Disinfection, sterilization.	4.1 The definition of disinfection. Types of disinfection: prophylactic and nidal (current and final).	S
	4.2 Control of respiratory infections, enteric infections and highly contagious diseases.	S
	4.3 Sterilization cleaning of medical instrument	S
	4.4 Insect control	S
	4.5 Rodent control	S
Module 5. Immunoprophylaxis	5.1 Definition of immunoprophylaxis. Theoretical basis of immunoprevention.	S

of infectious diseases.	5.2 The schedules for immunoprophylaxis . Active and passive immunoprophylaxis. Post-exposure immunoprophylaxis.	S
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.	S
	6.2 Epidemiological characteristics of deadly infectious diseases. Organization of anti epidemic and preventive measures.	S
Module 7. Epidemiology and prophylaxis of nosocomial infections.	7.1 Definition of nosocomial infections. Epidemiological, economic significance of hospital infections.	S
	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).	S
	7.3 Exogenous and endogenous infections	
Module 8. Epidemiology of emergency situations.	8.1 Definition of the “emergency situation”.	S
	8.2 Classification of catastrophes. Basic principles of medical aid and epidemic control organization in the area affected by an emergency.	S

* - 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

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lecture	Auditorium for lectures equipped with a set of specialized furniture; board (screen) and technical means of multimedia presentations.	Academic Activity Type – Lecture/Seminars/Computer 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 /

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
		Office 365, MS Teams, Chrome (latest stable release), Skype
Seminar	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-studies	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. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

- 1) Essentials of Infectious Disease Epidemiology (Essential Public Health) Paperback – 21 Aug. 2007 by Magnus (Author)#
- 2) Infectious Disease Epidemiology, Third Edition Paperback – 26 April 2013 by Nelson (Author)
- 3) Harrison's infectious diseases 3rd edition by Dennis Kasper and Anthony S Fauci
- 4) Essentials of Clinical Infectious Diseases by William Floyd Wright.
- 5) Medical Microbiology and Infection at a Glance Fourth edition Stephen H. Gillespie Kathleen B. Bamford.
- 6) 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. Environmental Epidemiology Principles and Methods (Kindle Edition) Ray M. Merrill 2008
2. Epidemiology for Public Health Practice (Kindle Edition) Robert H. Friis, Thomas Sellers 2020
3. Foundations of Infectious Disease A Public Health Perspective: A Public Health Perspective David P Adams 2020
4. Essential Readings In Infectious Disease Epidemiology Manya Magnus 2008

5. 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/envoccupational_health_students/Epidemiology.pdf
6. 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
7. 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
8. 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
9. 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. 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-8.3, GC-8.4; GPC-7.1; PC-4.1) 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).

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