

Документ подписан простой электронной подписью
Информация о владельце:
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Должность: Ректор
Дата подписания: 04.10.2024 14:01:50
Уникальный программный ключ:
ca953a0120d891083f939673078ef1a989dae18a

**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

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: **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	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	Biology, Immunology	

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

* 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>	18	18			
<i>Evaluation and assessment (exam/passing/failing grade)</i>	3	3			
Course workload	academic hours_	72	72		
	credits	2	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). 1.2 Establishing an epidemiological diagnosis. The kinds of epidemiological research.	LW
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).	LW
Module 3. Sapronotic and highly contagious infections.	3.1 Highly contagious disease 3.2 Sources, reservoirs of highly contagious diseases	LW
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	LW
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.	LW
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.	LW

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	LW
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.	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

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 / Office 365, MS Teams, Chrome (latest stable release), Skype
Lab work	A classroom for laboratory work, individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and machinery.	
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)

* The premises for students' self-studies are subject to **MANDATORY** mention

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

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.

Additional readings:

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/envoccupational_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/>

Training toolkit for self- studies to master the course *:

1. The set of lectures on the course “Epidemiology”.
2. The laboratory workshop (if any) on the course “Epidemiology”.
3. The guidelines for writing a course paper / project (if any) on the course “Epidemiology”.
4.

* The training toolkit for self- studies to master the course is placed on the course page in the university telecommunication training and information system under the set procedure.

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 (UC-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).

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