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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**

**PHYSIOLOGY**

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course title

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

31.05.01 General Medicine

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field of studies / speciality code and title

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

General Medicine

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higher education programme profile/specialisation title

## 1. COURSE GOAL(s)

The goal of the course "**Phthisiology**" is to equip of modern with basic theoretical and practical knowledge in the field of phthisiology (science about tuberculosis) at medical students. Each graduate of medical faculty is expected to know the diagnostics principles of tuberculosis and methods of its treatment. Irrespective of the chosen medical specialty, he/she is obliged to timely suspect tuberculosis in the patient, to carry out correct diagnostics and to send the patient to the antituberculosis specialized institution.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) "Phthisiology" is aimed at the development of the following competences /competences in part: **GC-1. (GC-1.1., GC-1.2.), SPC-5. (SPC-5.2., SPC-5.6., SPC-5.7., SPC-5.8., SPC-5.9., SPC-5.11.**

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

<b>Competence code</b>	<b>Competence descriptor</b>	<b>Competence formation indicators (within this course)</b>
GC-1	Able to perform critical analysis of the problematic situations based on systematic concept, build up a strategy	GC-1.1. Analyses scientific-technical references and documentation of medical organisations.
		GC-1.2. Critically assesses reliability of the information sources, works with contradictory information from different sources.
SPC-5	Able to perform and control of the efficacy of measures in prevention and healthy lifestyle formation and sanitary-hygienic education of people	PC-5.2. Able to organize and control vaccination against infectious diseases in adults in accordance with the existing normative of the healthcare, clinical guidelines (treatment protocols) taking into account standards of the healthcare.
		PC-5.6. Able to control measures for prevention.
		PC-5.7. Able to decide about the medical indications for restrictive measures (quarantine) and indications for specialist's consultation in case of infectious (parasitic) diseases.
		PC-5.8. Able to complete and send to the responsible authorities emergent notification in case of detection of the infectious or professional disease.

		PC-5.9. Able to perform antiepidemiological measures in case of the infection spread, including quarantine measures for dangerous (quarantine) infectious diseases.
		PC-5.11. Able to assess the efficacy of prophylactic measures for patients.

### 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-1.	Ways of performing the critical analysis of the problematic situations based on the systematic approach, work out the strategy	Biology, Immunology, Pathophysiology, Epidemiology, Infectious diseases	Hospital therapy, Clinical pharmacology
SPC-5.	Ability to control the efficacy of preventive measures, healthy life style building and sanitary education of the population	Histology, embryology, cytology, Microbiology, Virology, Epidemiology, Infectious diseases	Hospital therapy, Clinical pharmacology

\* 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 “Phtisiology” is 5 credits (180 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	
		11	12
Contact academic hours	82	36	46
including:			
Lectures (LC)	12	6	6

Lab work (LW)		-	-	-
Seminars (workshops/tutorials) (S)		70	30	40
<i>Self-studies</i>		64	34	30
<i>Evaluation and assessment (exam/passing/failing grade)</i>		34	12	22
<b>Course workload</b>	academic hours	180		
	credits	5		

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

## 5. COURSE CONTENTS

*Table 5.1. Course contents and academic activities types*

<b>Course module title</b>	<b>Course module contents (topics)</b>	<b>Academic activities types</b>
<b>Course module 1</b> Introduction to the speciality	<b>Topic 1.1.</b> History of tuberculosis studies. Current epidemiological situation worldwide and in the Russian Federation. TB etiology, species properties of mycobacteria	<b>LC, S</b>
	<b>Topic 1.2.</b> TB pathogenesis. Idea of active TB and latent TB infection. Pathological anatomy of tuberculosis	<b>LC, S</b>
<b>Course module 2</b> TB prevention.	<b>Topic 2.1.</b> Social prevention of TB	<b>LC, S</b>
	<b>Topic 2.2.</b> Immunization for TB. Anti-TB immunity properties.	<b>LC, S</b>
	<b>Topic 2.3.</b> Contact tracing. Treatment of latent TB infection.	<b>LC, S</b>
	<b>Topic 2.4.</b> Anti-TB infection control	<b>LC,S</b>
<b>Course module 3</b> Early TB detection	<b>Topic 3.1</b> Measures for early TB detection in adults.	<b>S</b>
	<b>Topic 3.2</b> Measures for early TB detection in children and adolescents.	<b>S</b>
<b>Course module 4</b> TB diagnostics	<b>Topic 4.1</b> Clinical manifestation of TB, peculiarities of respiratory and intoxication syndromes. Microbiological diagnostics of TB.	<b>S</b>
	<b>Topic 4.2</b> Radiological diagnostics of pulmonary TB. Laboratory and instrumental methods for TB diagnostics. Diagnostic algorithm. Immunological tests (tuberculin skin test, IGRA-tests).	<b>S</b>
<b>Course module 5</b> TB healthcare. Treatment of TB	<b>Topic 5.1</b> Outpatient TB department: aims and functions.	<b>LC, S</b>
	<b>Topic 5.2</b> Contact tracing. Epidemiological measures for prevention of TB spreading.	<b>LC, S</b>
	<b>Topic 5.3</b> TB treatment: anti-TB drugs, treatment regimens.	<b>LC, S</b>

Course module title	Course module contents (topics)	Academic activities types
<b>Course module 6</b> TB classification. Primary TB in children and adolescents. Post-primary pulmonary TB	<b>Topic 6.1</b> TB classification (Russian, WHO, ICD-10). Primary TB in children: clinical forms, peculiarities of diagnostics and manifestation.	LC, S
	<b>Topic 6.2</b> Clinical-radiological features of small forms of TB.	LC, S
	<b>Topic 6.3</b> Clinical-radiological features of infiltrative TB.	LC, S
	<b>Topic 6.4</b> Clinical-radiological features of disseminated TB.	S
	<b>Topic 6.5</b> Clinical-radiological features of big forms of TB.	S
	<b>Topic 6.6</b> Clinical-radiological features of chronic forms of TB.	S
<b>Course module 7</b> Extrapulmonary TB	<b>Topic 7.1</b> Pathogenesis of extrapulmonary TB. TB meningoencephalitis.	S
	<b>Topic 7.2</b> TB of urogenitary tract. TB of bones and joints.	S
	<b>Topic 7.3</b> Abdominal TB. TB of peripheral lymph nodes.	S
<b>Course module 8</b> TB in special groups of patients	<b>Topic 8.1</b> Clinical and radiological peculiarities of TB in HIV-positive patients depending on the degree of immunosuppression. Specific features of TB diagnostics in HIV-positive patients	S
	<b>Topic 8.2</b> TB in pregnant women: peculiarities of manifestation, diagnostics and treatment.	S
	<b>Topic 8.3</b> TB and diabetes mellitus	S
	<b>Topic 8.4</b> TB in patients receiving immunosuppressive treatment.	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	Lecture classroom, equipped with the set of specialized furniture; whiteboard (screen) and technical	Teaching auditorium for lectures and practical trainings, group and personal

<b>Type of academic activities</b>	<b>Classroom equipment</b>	<b>Specialised educational / laboratory equipment, software, and materials for course study (if necessary)</b>
	devices for multimedia presentations.	consultations, current and interim assessment. The 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
Seminar	Seminars classroom for group and personal consultations, current and interim assessment, equipped with the set of specialized furniture and technical devices for multimedia presentations.	The set of specialized furniture; technical devices: multimedia projector, laptop, stable wireless Internet connection. Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), Skype
Self-studies	Self-studies classroom (may be used for seminars and consultations), equipped with the set of special furniture and access to the EIES.	The set of specialized furniture; technical devices: multimedia projector, laptop, stable wireless Internet connection

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

## 7. RESOURCES RECOMMENDED FOR COURSE STUDY

### *Main readings:*

1. Phthisiatry : textbook / V.A. Koshechkin. - Книга на английском языке. - Moscow : GEOTAR-Media, 2019. - 256 с. - ISBN 978-5-9704-5302-5
2. Madhukar Pai. Let's talk TB – 3d edition. 2018, 119p. <http://www.letstalktb.org/>
3. Toman's tuberculosis: case detection, treatment and monitoring: questions and answers (2nd edition). 2004. <https://apps.who.int/iris/handle/10665/42701>
4. Tuberculosis: Current Issues in Diagnosis and Management <http://www.e-booksdirectory.com/details.php?ebook=8772>
5. Treatment of tuberculosis: guidelines – 4th ed. WHO/HTM/TB/2009, 420 p.

### *Additional readings:*

#### **Printed editions:**

1. C.L. Daley, M.B. Gotway, R.M. Jasmer. Radiographic manifestation of

tuberculosis – 2nd edition. Curry International Tuberculosis Centre. 2011, 111p.

2. Ermolitskiy N.M. Radiology. Teaching workbook for 3rd year students of the Faculty of preparation of experts for foreign countries of medical higher educational institutions – Gomel, GomSMU, 2016. p. 1. 108 p.

3. D.Heemskerk, M.Caws, B.Marais, J.Farrar. Tuberculosis in adults and children. SpringerOpen. 2015, 63p. <https://link.springer.com/book/10.1007/978-3-319-19132-4>

4. WHO guidelines (and associated standards) on tuberculosis <http://www.who.int/publications/guidelines/tuberculosis/en/>

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

1. Electronic libraries with access for RUDN students:

- Electronic library system RUDN – ELS RUDN <http://lib.rudn.ru/MegaPro/Web>

- ELS «University library online » <http://www.biblioclub.ru>

- ELS Urait <http://www.biblio-online.ru>

- ELS «Student’s consultant» [www.studentlibrary.ru](http://www.studentlibrary.ru)

- ELS «Lan» <http://e.lanbook.com/>

2. Databases and search engines:

- Stop TB site <https://www.stoptb.org/resources/publications>

- searching system Yandex <https://www.yandex.ru/>

- searching system Google <https://www.google.ru/>

- SCOPUS database <http://www.elsevierscience.ru/products/scopus/>

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

1. The set of lectures on the course “Phtisiology”

2. The laboratory workshop (if any).on the course “Phtisiology”

3. The guidelines for writing a course paper / project (if any) on the course “Phtisiology”.

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 (GC-1. (GC-1.1., GC-1.2.), SPC-5. (SPC-5.2., SPC-5.6., SPC-5.7., SPC-5.8., SPC-5.9., SPC-5.11.) 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:**

Professor of the department  
of infectious diseases with the  
courses of epidemiology and  
phtisiology

V.N. Zimina

position, department	signature	name and surname
Associate professor of the department of infectious diseases with the courses of epidemiology and phthisiology		S.L. Voznesenskiy
position, department	signature	name and surname

**HEAD OF EDUCATIONAL DEPARTMENT:**

Department of infectious diseases with the courses of epidemiology and phthisiology		G.M. Kozhevnikova
name of department	signature	name and surname

**HEAD  
OF HIGHER EDUCATION PROGRAMME:**

First Deputy Director of MI for Academic Affairs		I.V. Radysh
position, department	signature	name and surname