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Должность: Ректор  
Дата подписания: 07.06.2023 17:43:25  
Уникальный программный ключ:  
ca953a0120d891083f939673078ef1a989dae18a

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

**Institute of Medicine**

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educational division (faculty/institution/academe) as higher education programme developer

## **COURSE SYLLABUS**

**Endocrinology**

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course title

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

**31.05.01 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

**2022-2023**

## 1. COURSE GOAL(s)

The goal of the course “Endocrinology” is to equip the students with basic theoretical knowledge on the fundamental sections of endocrinology and practical skills in examining patients with endocrine diseases, primary diagnosis, treatment and clinical examination of patients.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) “Endocrinology” is aimed at the development of the following competences /competences in part: **UC-1.1., 1.2.; GPC-1.1., 1.2., 4.1., 4.2., 4.3., 7.1., 7.2.; PC- 1.1.; PC - 2.1.-2.7., 3.1. – 3.4.**

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

<b>Competence code</b>	<b>Competence</b>	<b>Indicators of Competence Formation</b> (within the framework of this discipline)
UC-1	Able to carry out a critical analysis of problem situations on the basis of a systematic approach, to develop an action strategy	UC-1.1. Analyzes scientific and technical literature and regulatory documentation of medical organizations.
		UC-1.2. Critically evaluates the reliability of information sources, works with conflicting information from different sources
GPC-1	Able to implement moral and legal norms, ethical and deontological principles in professional activities	GPC-1.1 Be able to observe moral and legal norms in professional activities
		GPC-1.2 Be able to express professional information in the process of intercultural interaction, observing the principles of ethics and deontology
GPC-4	Able to use medical devices prescribed by the order of medical care, as well as conduct examinations of the patient in order to establish a diagnosis	GPC-4.1 Be able to use medical devices in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical assistance, assistance, taking into account the standards of medical care.

		GPC-4.2 Be able to assess the effectiveness and safety of the use of medical devices.
		GPC-4.3 Be proficient in the technique of performing typical medical manipulations using medical devices provided medical care procedures
GPC-7	Able to prescribe treatment and monitor its effectiveness and safety	GPC-7.1 Master the methods of general clinical examination, interpret the results of laboratory, instrumental diagnostic methods.
		GPC-7.2 To master the algorithm for making a preliminary diagnosis with subsequent referring the patient to the appropriate medical specialist.
PC-1	Able to provide medical care to a patient in urgent or emergency forms.	PC-1.1. Able to assess the condition of a patient requiring medical care in emergency or emergency forms
PC-2	Able to conduct a patient examination in order to establish a diagnosis	PC-2.1. He has the skills to collect complaints, anamnesis of the patient's life and illness, as well as to conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation).
		PC-2.2. Able to formulate a preliminary diagnosis and draw up a plan for laboratory and instrumental examinations of the patient
		PC-2.3. Able to refer the patient for laboratory examination if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care.

		<p>PC-2.4. Able to refer the patient for an instrumental examination if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care.</p> <p>PC-2.5. Able to refer the patient for consultations to specialist doctors if there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care.</p>
		<p>PC-2.6. Able to refer a patient for specialized medical care in an inpatient setting or in a day hospital if there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care.</p>

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		<p>PC-2.7. Able to make a differential diagnosis with other diseases/conditions, including emergencies, as well as establish a diagnosis based on the current International Statistical Classification of Diseases and Related Health Problems (ICD).</p>
PC-3	<p>Able to prescribe treatment and control its effectiveness and safety</p>	<p>PC-3.1. Able to develop a treatment plan for a disease or condition, taking into account the diagnosis, age and clinical presentation in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care</p>

		PC-3.2. Able to prescribe medicines, medical devices and medical nutrition, taking into account the diagnosis, age and clinical picture of the disease and in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care
		PC-3.3. Able to prescribe non-drug treatment, taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care
		PC-3.4. Able to assess the effectiveness and safety of the use of medicines, medical devices, clinical nutrition and other methods of treatment

### 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	Able to carry out a critical analysis of problem situations based on a systematic	Psychology Pedagogy	Hospital therapy

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
	approach, develop an action strategy		
GPC-1	Able to implement moral and legal norms, ethical and deontological principles in professional activities	Psychology Pedagogy Propaedeutics Internal Medicine	Hospital Therapy
GPC-4	Able to use medical devices prescribed by the order of medical care, as well as conduct examinations of the patient in order to establish a diagnosis	Biochemistry Biology	Clinical laboratory diagnostics hospital
GPC-7	Able to prescribe treatment and monitor its effectiveness and safety	Propaedeutics Internal Medicine	Hospital Therapy
PC-1	Able to provide medical care to the patient in urgent or emergency forms	Propaedeutics internal medicine Faculty Therapy Anesthesiology and resuscitation	Hospital therapy
PC-2	Capable of examining a patient in order to establish a diagnosis	Propaedeutics internal medicine Faculty Therapy Biochemistry Radiation diagnostics	Hospital therapy
PC-3	Capable of prescribing treatment and monitoring its effectiveness and safety	Propaedeutics internal medicine Faculty Therapy	hospital therapy

#### 4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course “Endocrinology” 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 L academ	Semesters			
		9	10	11	12



	ic hours (ac.h)				
<b>Classroom learning, ac.h</b>	<b>48</b>	-	-	48	-
<b>Including:</b>					
Lectures (LC)	-	-	-	-	-
Lab work (LW)	-	-	-	-	-
Seminars (workshops/tutorials) (S)	48			48	
<i>Self-studies</i>	24			24	
<i>Evaluation and assessment (exam/passing/failing grade)</i>	-			-	
<b>Total workload of the discipline</b>	ac. hours	<b>72</b>		<b>72</b>	
	credits	<b>2</b>		2	

## 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> Diabetes mellitus	<b>1.1.:</b> Diabetes mellitus (DM), uncomplicated course. Classification, primary diagnosis and metabolic control. Hypoglycemic and antihyperglycemic therapy. insulin therapy. Emergency conditions of LZ	S
	<b>1.2:</b> Emergency conditions in patients with diabetes mellitus..	S
	<b>1.3:</b> Late complications of diabetes mellitus: diabetic microangiopathies.	S
	<b>1.4:</b> Late complications of diabetes mellitus: diabetic macroangiopathies. Diabetic neuropathy	S
<b>Module 2</b> General endocrinology	<b>2.1:</b> Diseases of the thyroid gland. Endemic and sporadic goiter. Diffuse toxic goiter.	S
	<b>2.2:</b> Inflammatory diseases of the thyroid gland. Hypothyroidism. Diseases of the parathyroid glands.	S
	<b>2.3:</b> Diseases of the hypothalamic-pituitary system. Obesity.	S
	<b>2.4:</b> Diseases of the adrenal glands.	S

## 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 room for conducting lecture-type classes, equipped with a set of specialized furniture; board (screen) and technical means of multimedia presentations.	Training room for conducting lecture and seminar classes, group and individual consultations, current control and intermediate certification. A set of specialized furniture; technical means: Portable glucometers with sets of test strips (Satellite-Express) - 10 pcs; Diagnostic tuning fork; term-type Monofilament; Medical scales; Height meter metal medical; Tonometers complete with phonendoscopes; Multimedia projector Epson EV-HOZ; Notebook HP; there is internet access. Software: Microsoft products (OS, office suite, including MS Office/Office 365, Teams, Skype)
Computer lab	Computer class for conducting classes, group and individual consultations, current control and intermediate certification, equipped with personal computers (15 pcs.), a board (screen) and technical means of multimedia presentations.	A set of specialized furniture; technical means: TOSHIBA X200 multimedia projector, ASUS F9E Core 2 DUO T5750 laptop, Internet access. Software: Microsoft products (OS, office suite, including MS Office / Office 365, Teams, Skype) list of specialized equipment, stands, visual posters, etc.
Self-studies	Classroom for students self-studies (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to the EIEE.	

\* - classroom for students self-studies is indicated MANDATORY

## 7. RESOURCES RECOMMENDED FOR COURSE STUDY

*Main readings:*

1. Gardner D., Shobek D. Basic and clinical endocrinology. Book 1 / Per. from English. - M.: BINOM Publishing House, 2016. - 464 pages (David G. Gardner, Dolores Shoback. Greenspan's Basic and Clinical Endocrinology. Book 1).

2. Gardner D., Shobek D. Basic and clinical endocrinology. Book 2 / Per. from English. - M.: BINOM Publishing House, 2015. - 696 pages (David G. Gardner, Dolores Shoback. Greenspan's Basic and Clinical Endocrinology. Book 2).

3. Algorithms of specialized medical care for patients with diabetes mellitus / Edited by I.I. Dedov M.V. Shestakova, A.Yu. Mayorova. 10th edition (updated). - M., 2021. -222 s. DOI: 10.14341/DM12802  
[https://www.endocrincentr.ru/sites/default/files/specialists/science/clinic-recomendations/algorithmy\\_sd\\_kniga\\_10-y\\_vypusk\\_dopolnennyy.pdf](https://www.endocrincentr.ru/sites/default/files/specialists/science/clinic-recomendations/algorithmy_sd_kniga_10-y_vypusk_dopolnennyy.pdf) <https://www.dia-endojournals.ru/jour/article/view/12211>

4. Handbook of technologies in diabetology. Ed. I. Reznik; Per. from English; Ed. I.A. Kournikova. GEOTAR-Media, 2020 208 pp. ISBN 978-5-9704-5788-7

<https://mbookshop.ru/shop/endokrinologiya/spravochnik-po-tehnologiyam-v-diabetologii/>

5. Ametov, A. S. Diabetes mellitus type 2. Problems and solutions. Volume 1.: textbook. settlement / Ametov A. S. - 3rd ed. , revised and additional - Moscow: GEOTAR-Media, 2015. - 352 p. - ISBN 978-5-9704-3279-2. - Text: electronic // URL: <https://www.rosmedlib.ru/book/ISBN9785970432792.html>

6. Balabolkin M.I., Klebanova E.M., Kreminskaya V.M. Fundamental and clinical thyroidology: Proc. Benefit. - M.: OJSC "Publishing house" Medicine", 2007. - 816 p.

7. Diagnosis and treatment of emergency conditions in a therapeutic clinic: Textbook / Ed. P.P. Ogurtsova, V.E. Dvornikov. - Moscow: Medical Information Agency LLC, 2018. - 624 p. Chapter 23

8. Vinogradov A.V. Differential diagnosis of internal diseases: Textbook for universities / Vinogradov Alexey Viktorovich. - 3rd ed., revised. and additional - M.: MIA, 2009. - 912 p. - ISBN 978-5-8948-1772-9 : 640.00.

9. Internal diseases: Textbook for universities: In 2 vols. T. 2 / Ed. V.S. Moiseeva, A.I. Martynova, N.A. Mukhin. - 3rd ed., Rev. and additional - M.: GEOTAR-Media, 2012. - 896 p. : ill. - ISBN 978-5-9704-2212-0

10. Abramova N.A., Aleksandrov A.A., Andreeva E.N., Dedov I.I., Melnichenko G.A. Endocrinology. National leadership. Short edition. - M.: GEOTAR-Media, 2013. - 752 p.

11.  
[http://kingmed.info/knigi/Endokrinologia/book\\_2246/Endokrinologiya\\_Natsionalnoe\\_rukovodstvo\\_Kratkoe\\_izdanie-Abramova\\_NA\\_Aleksandrov\\_AA\\_Andreeva\\_EN\\_Dedov\\_II\\_Melnichenko\\_GA-2013-pdf](http://kingmed.info/knigi/Endokrinologia/book_2246/Endokrinologiya_Natsionalnoe_rukovodstvo_Kratkoe_izdanie-Abramova_NA_Aleksandrov_AA_Andreeva_EN_Dedov_II_Melnichenko_GA-2013-pdf)

#### *Additional readings:*

1. Kiyakbaev G. K. Endocrinology. Questions and answers [Electronic resource]: Textbook / G.K. Kiyakbaev, Shelepin A. A.; Ed. V.S. Moiseeva, Zh.D. Kobalava. - electronic text data. - M.: Publishing House of RUDN University, 2012. - 142 p. - ISBN 978-5-209-04402-4.

#### *Printed editions:*

1. Clinical recommendations. Patient management standards. Issue 2. - M.: GEOTAR - Media, 2007. - 1376 p.
2. Frolov V.A. General pathological physiology: Textbook / V. A. Frolov, Bilibin D. P.; Under total ed. V.A. Frolova, D.P. Bilibina. - M. : Higher education and science, 2009, 2012. - 568 p. : ill. - ISBN 978-5-94084-039-8: 893.12.
3. Itsenko-Cushing's disease. Ed. I.I. Dedova, G.A. Melnichenko Itsenko-Cushing's disease. - Moscow, 2011. - 342p.
4. Autonomic disorders: Clinic, diagnosis, treatment./ Under. Ed. A.M. Wayne. - M. : LLC "Medical Information Agency", 2003.- 752 p.
5. Dedov I.I., Shestakova M.V. Diabetes mellitus and arterial hypertension. - M. : LLC "Medical Information Agency", 2006. - 344 p.
6. Differential diagnosis in the clinic of internal diseases. V.A. Vinogradov, 2009
7. Neuroendocrinology / Henry M. Cronenberg, Shlomo Melmed, Kenneth S. Polonsky, P. Reed Larsen; per. from English. ed. I. I. Dedova, G. A. Melnichenko. - M. : Reed Elsevier LLC, 2010. - 472 p. - (Series "Endocrinology according to Williams"). — Translation of ed. Williams Textbook of Endocrinology, 11th edition / Henry M. Kronenberg, Shlomo Melmed, Kenneth S. Polonsky and P. Reed Larsen. ISBN 978-5-91713-033-0 (Russian).
8. Chernyshova T.E., Altunbaev R.A., Gur'eva I.V., Balabolkin M.I., Trusov V.V., Kournikova I.A. Diabetic neuropathy (pathogenesis, diagnosis, treatment). Recommended by the Department of Educational Medical Institutions and Personnel Policy of the Ministry of Health of the Russian Federation for use in the educational process at the departments of postgraduate and additional professional education. Textbook for students of the departments of postgraduate and additional professional education - M. : ID MEDPRAKTIKA - M, 2005. - 108s.
9. Shevchenko O.P., Praskurnichiy E.A., Shevchenko A.O. metabolic syndrome. - M., 2004. - 141 p.
10. Marova E.I. Neuroendocrinology. Clinical essays. - Yaroslavl. DIA press. – 1999
11. Eric R. Beck, Robert L. Soukhani, Michael G. Hanna, Diane R. Holdwright, Lessons in Differential Diagnosis. - 2008
12. S. Primrose, R. Twyman. Genomics. role in medicine. // Binom. Knowledge Laboratory, 2008 - 280 p.
13. Sychev D. A., Ramenskaya G. V., Ignatiev I. V., Kukes V. G. Clinical pharmacogenetics: Textbook / Ed. Academician of the Russian Academy of Medical Sciences V. G. Kukes and Academician of the Russian Academy of Medical Sciences N. P. Bochkov.- M. : GEOTAR-Media, 2007.- 248 p.
14. Wolfram Weckwerth W. (2006), Metabolomics: Methods And Protocols (Methods in Molecular Biology), Humana Press
15. Albala J.S., Humpheiy-Smith I. Protein Arrays, Biochips, and Proteomics. - 2003. - 418.
16. Glik B., Pasternak D. Molecular biotechnology. Principles and application. – M.: Mir, 2002, 589 p.
17. National guidelines: in cardiology - 2008, nephrology - 2009, gastroenterology - 2008, endocrinology - 2009, enteral and parenteral nutrition - 2015.

*Internet-(based) sources, electronic libraries and telecommunications network "Internet" with access for RUDN students:*

*1. ELS of RUDN University and third-party ELS, to which university students have access on the basis of concluded agreements:*

- RUDN Electronic Library System - RUDN EBS <http://lib.rudn.ru/MegaPro/Web>
- ELS "University Library Online" <http://www.biblioclub.ru>
- EBS Yurayt <http://www.biblio-online.ru>

- ELS "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)
- EBS "Lan" <http://e.lanbook.com/>
- EBS "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/>

- WHO documentation center <http://whodc.mednet.ru/>
- electronic library on surgery <http://surgerylib.ru/>

3. Databases, information and reference and search systems:

[http://www.endocrincentr.ru/endocrin\\_internet/](http://www.endocrincentr.ru/endocrin_internet/) - Official website of the Endocrinological Research Center of the Ministry of Health of the SR -

<http://www.idf.org/global-guideline-type-2-diabetes-2012> - Website of the International Diabetes Federation (IDF)

Sites on problems - <http://thyronet.rusmedserv.com/> <http://www.thyroid.ru/>  
<http://www.diabet-news.ru/> <http://www.rlsnet.ru/> <http://www.diabet.ru/>  
[www. www.cardiosite.ru](http://www.cardiosite.ru) [www. gastrosite.ru](http://www.gastrosite.ru), [www. pulmonology.ru](http://www.pulmonology.ru), [www. rheumatology.ru](http://www.rheumatology.ru),  
[www. endocrinolog.ru](http://www.endocrinolog.ru),

[http://dbkgroup.org/dave\\_files/AnalystMetabolicFingerprinting2006](http://dbkgroup.org/dave_files/AnalystMetabolicFingerprinting2006).

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

1. The set of lectures on the course "Endocrinology"

\* 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-1.1., 1.2.; GPC-1.1., 1.2., 4.1., 4.2., 4.3., 7.1., 7.2.; PC- 1.1.; PC - 2.1.-2.7., 3.1. – 3.4.) 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:**

Professor of the Department of  
Hospital Therapy with Courses  
of Endocrinology, Hematology  
and KLD, MD Professor

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position, department

I.A. Cournikova

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signature

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name and surname

Professor Assistant  
Hospital Therapy with Courses  
of  
Endocrinology,  
Hematology and KLD, MD. PhD

T.V Kochemasova

---

position, department

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signature

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name and surname

**HEAD OF EDUCATIONAL DEPARTMENT:**

of Hospital Therapy with Courses  
of Endocrinology, Hematology  
and KLD, MD Professor

N.D. Kislyi

---

name of department

---

signature

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name and surname

**HEAD OF HIGHER  
EDUCATION**

**PROGRAMME:**

MI First Deputy Director for  
Academic Affairs

I.V.Radysh

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position, department

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signature

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name and surname