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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**

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

COURSE SYLLABUS

Urology

course title

Recommended by the Didactic Council for the Education Field of:

Urology

field of studies / speciality code and title

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

General Medicine

higher education programme profile/specialisation title

1. COURSE GOAL(s)

The goal of the course “Urology” is to equip students with the knowledge of the main clinical manifestations of urological diseases, methods of diagnosis, differential diagnosis and treatment.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) “Urology” is aimed at the development of the following competences /competences in part: PC-1, PC-2, PC-5, PC-6.

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

Competence code	Competence descriptor	Competence formation indicators (within this course)
PC-1	Capable of providing medical care to a patient in urgent or emergency situations	PC-1.1 Able to assess a patient's condition requiring emergency or urgent medical care; PC-1.2 Able to recognize conditions arising from sudden acute illnesses, exacerbations of chronic diseases without obvious signs of a threat to the patient's life and requiring emergency medical care; PC-1.3 Able to provide emergency medical care to patients with sudden acute illnesses, conditions, and exacerbations of chronic diseases without obvious signs of a threat to the patient's life; PC-1.4 Able to recognize life-threatening conditions for the patient, including clinical death (cessation of vital functions of the human body (circulation and/or respiration)), requiring emergency medical care; PC-1.5 Able to provide emergency medical care to patients in life-threatening conditions, including clinical death (cessation of vital functions of the human body (circulation and/or respiration));

		<p>PC-1.6 Able to administer medications and medical devices when providing emergency or urgent medical care;</p>
<p>PC-2</p>	<p>Capable of conducting a patient examination to establish a diagnosis</p>	<p>PC-2.1: Possesses the skills to collect complaints, a patient's medical history, and conduct a full physical examination (inspection, palpation, percussion, auscultation);</p> <p>PC-2.2: Able to formulate a preliminary diagnosis and plan laboratory and instrumental examinations for the patient;</p> <p>PC-2.3: Able to refer the patient for laboratory examination if medically indicated, in accordance with current medical care procedures, clinical guidelines (treatment protocols), and standards of care;</p> <p>PC-2.4: Able to refer the patient for instrumental examination if medically indicated, in accordance with current medical care procedures, clinical guidelines (treatment protocols), and standards of care;</p> <p>PC-2.5 Refer patients for consultation with specialist physicians when medically indicated, in accordance with current medical care procedures and clinical guidelines (treatment protocols) on medical care, taking into account standards of care;</p> <p>PC-2.6 Refer patients for specialized medical care in an inpatient setting or day hospital when medically indicated, in accordance with current medical care procedures and clinical guidelines (treatment protocols) on medical care,</p>

		<p>taking into account standards of care;</p> <p>PC-2.7 Conduct differential diagnostics with other diseases/conditions, including emergency ones, and establish a diagnosis taking into account the current International Statistical Classification of Diseases and Related Health Problems (ICD);</p>
PC-3	Capable of prescribing treatment and monitoring its effectiveness and safety	<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 current medical care procedures, clinical guidelines (treatment protocols) for medical care, and standards of care;</p> <p>PC-3.2 Able to prescribe medications, medical devices, and therapeutic nutrition taking into account the diagnosis, age, and clinical presentation of the disease and in accordance with current medical care procedures, clinical guidelines (treatment protocols) for medical care, and standards of care;</p> <p>PC-3.3 Able to prescribe non-drug treatment taking into account the diagnosis, age, and clinical presentation of the disease in accordance with current medical care procedures, clinical guidelines (treatment protocols) for medical care, and standards of care;</p> <p>PC-3.4 Able to evaluate the efficacy and safety of medications, medical devices, therapeutic nutrition, and other treatment methods;</p> <p>PC-3.5 Able to provide palliative care in collaboration with specialist</p>

		physicians and other healthcare professionals; PC-3.6 Able to organize personalized patient treatment, including for pregnant women and elderly patients, and evaluate the effectiveness and safety of treatment;
PC-5	Capable of conducting and monitoring the effectiveness of measures to prevent and promote a healthy lifestyle and sanitary and hygienic education of the population	PC-5.1 Organizes and conducts medical examinations based on age, health status, and profession, in accordance with current regulations and other documents; PC-5.3 Performs medical examinations of adults for the early detection of chronic non-communicable diseases and the main risk factors for their development, in accordance with current regulations and other documents;
PC-6	Capable of maintaining medical records and organizing the activities of mid-level medical personnel	PC-6.1 Ability to prepare a work plan and work reports, and prepare a medical (therapeutic) site passport; PC-6.3 Ability to maintain medical records, including electronic ones; PC-6.4 Ability to monitor the performance of job responsibilities by the district nurse and other available medical personnel;

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*
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PC-1	Capable of providing medical care to a patient in urgent or emergency situations	Internal Medicine Propaedeutics; Obstetrics and Gynecology; General Surgery; Faculty Therapy; Faculty Surgery; Neurology, Medical Genetics, Neurosurgery; Emergency Medicine for Life-Threatening Conditions; Diagnostic Internship: Ward Nurse Assistant; Emergency Medical Internship (Simulation Center); Internship to Acquire Basic Professional Skills and Professional Experience: Procedural Nurse Assistant;	Emergency situations; Disaster medicine; Obstetrics and gynecology; Infectious diseases; Pediatrics; Endocrinology; Outpatient therapy; Anesthesiology, resuscitation, intensive care; Hospital surgery, pediatric surgery; Oncology, radiation therapy; Traumatology, orthopedics; Hospital therapy; Endoscopic urology; Allergology; Physician assistant in the internal medicine field: assistant to the general practitioner; Obstetric and gynecological practice: assistant to the obstetrician; General medical practice: assistant to the pediatrician;
PC-2	Capable of conducting a patient examination to establish a diagnosis	Medical Enzymology**; Molecular Genetics in Applied Biology and Medicine**; Propaedeutics of Internal Medicine; Medical Elementology; Obstetrics and Gynecology; Immunology; General Surgery; Faculty Therapy; Faculty Surgery; Microbiology, Virology; Pathophysiology, Clinical Pathophysiology; Neurology, Medical Genetics, Neurosurgery; Evidence-Based Medicine; Radiology; Dermatovenereology; Pathological Anatomy, Clinical Pathological Anatomy;	Telemedicine; General medical skills; Emergency conditions Obstetrics and gynecology; Infectious diseases; Pediatrics; Maxillofacial surgery; Sectional course; Occupational diseases; Endocrinology; Psychiatry, medical psychology; Ththisiology; Outpatient therapy; Anesthesiology, resuscitation, intensive care; Hospital surgery, pediatric surgery; Oncology, radiation therapy; Traumatology, orthopedics; Reproductive health; Clinical dentistry; Topical issues of neonatology**; Cardiology in quests; Microbiological diagnostic methods; Hospital therapy; Endoscopic urology; Allergology; Private radiology; Outpatient pulmonology;

			Physician assistant in the general practice: physician assistant; General practice: physician assistant in an outpatient clinic; Obstetrics and gynecology practice: obstetrician assistant; General practice: pediatrician assistant;
PC-3	Capable of prescribing treatment and monitoring its effectiveness and safety	Introduction to Nutrition**; Obstetrics and Gynecology; Faculty Therapy; Pharmacology; Faculty Surgery; Fundamentals of Integrative Medicine**; Neurology, Medical Genetics, Neurosurgery; Dermatovenereology; Clinical Trials**; Clinical Research**; Mechanisms of Drug Action;	Telemedicine; Outpatient Cardiology**; Fundamentals of Pediatric Nutrition**; Obstetrics and Gynecology; Infectious Diseases; Clinical Pharmacology; Pediatrics; Maxillofacial Surgery; Occupational Diseases; Endocrinology; Psychiatry, Medical Psychology; Phthisiology; Outpatient Therapy; Hospital Surgery, Pediatric Surgery; Oncology, Radiation Therapy; Traumatology, Orthopedics; Reproductive Health; Topical Issues of Neonatology**; Experimental Oncology; Cardiology in Quests; Geriatrics and Palliative Medicine; Hospital Therapy; Endoscopic Urology; Allergology; Outpatient pulmonology; Physician assistant in the internal medicine field: physician assistant; General medical practice: physician assistant in an outpatient clinic; Obstetrics and gynecology practice: obstetrician assistant; General medical practice: pediatrician assistant;
PC-5	Capable of conducting and monitoring the effectiveness of measures to prevent and promote a	Introduction to Nutrition**; Propaedeutics of Internal Medicine;	Outpatient Cardiology**; Fundamentals of Pediatric Nutrition**; Obstetrics and Gynecology;

	healthy lifestyle and sanitary and hygienic education of the population	Organization of Specialized Patient Care; Obstetrics and Gynecology; Epidemiology; Hygiene; Neurology, Medical Genetics, Neurosurgery; Dermatovenereology; Fundamentals of Psychophysiology**;	Infectious Diseases; Pediatrics; Occupational Diseases; Endocrinology; Phthisiology; Outpatient Therapy; Reproductive Health; Clinical Dentistry; Endoscopic Urology; Outpatient Pulmonology; General Practice: Physician Assistant in an Outpatient Clinic; General Practice: Pediatrician Assistant;
PC-6	Capable of maintaining medical records and organizing the activities of mid-level medical personnel	Internal Medicine Propaedeutics; Obstetrics and Gynecology; Bioethics**; General Surgery; Faculty Therapy; Faculty Surgery; Public Health and Healthcare, Healthcare Economics; Radiology; Biostatistics; Introductory Practical Training to Acquire Basic Professional Skills and Abilities: Patient Care (Simulation Center); Introductory Practical Training to Acquire Basic Professional Skills and Abilities: Patient Care; Practical Training to Acquire Basic Professional Skills and Abilities: Junior Medical Assistant; Practical Training to Acquire Basic Professional Skills and Abilities: Procedural Nurse Assistant;	Telemedicine; Obstetrics and Gynecology; Infectious Diseases; Pediatrics; Forensic Medicine; Outpatient Therapy; Anesthesiology, Resuscitation, Intensive Care; Hospital Surgery, Pediatric Surgery; Oncology, Radiation Therapy; Hospital Therapy; Endoscopic Urology; Allergology; Biomedical Data Analysis Methods. Artificial Intelligence in Practical Healthcare; Physician Assistant in the Internal Medicine Field: Physician Assistant to a General Practitioner; General Practice: Physician Assistant in an Outpatient Clinic; Obstetric and Gynecological Practice: Obstetrician Assistant;

* 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 “Urology” is 2 credits (72 academic hours).

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

		Semesters/training modules
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Type of academic activities		Total academic hours	8
<i>Contact academic hours</i>		45	45
<i>including:</i>			
Lectures (LC)		-	-
Lab work (LW)		-	-
Seminars (workshops/tutorials) (S)		45	45
<i>Self-studies</i>		24	24
<i>Evaluation and assessment (exam/passing/failing grade)</i>		3	3
Course workload	academic hours	72	72
	credits	2	3

* 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)	Types of Academic activities
Module 1 Research methods of the urological patient	1. Symptoms of urological diseases of urination disorders. Qualitative and quantitative changes in urine. General clinical and laboratory research methods. Instrumental and endoscopic methods of examination of the urological patient. X-ray methods of research: survey and / in urography, cystography, urethrography, retrograde and antegrade pyelography - ultrasound of the kidneys, bladder, prostate, genital organs.	S
Module 2 Anomalies of the genitourinary system	undamentals of embryology of the urinary and reproductive systems. Classification of kidney anomalies. Ultrasonic and X-ray diagnostic methods. Anomalies of the ureters, bladder and urethra. Classification, treatment. Anomalies of the reproductive system, classification, diagnosis, treatment.	S

Module 3 Nonspecific inflammatory diseases of the genitourinary system	Pyelonephritis, etiology, pathogenesis, clinic, diagnosis, classification, principles of treatment, paranephritis, nephrosclerosis, pyonephrosis, cystitis, urethritis, prostatitis, epididymo-orchitis, etiology, pathogenesis, clinic, diagnosis, treatment.	S
Module 4 Nonspecific inflammatory diseases of the genitourinary system Urolithiasis disease	Etiology, pathogenesis, clinic, diagnosis of urolithiasis. Theories of stone formation. Differential diagnosis coral stones, bilateral kidney stones. Contact and remote methods of crushing stones. Surgical treatment of urolithiasis. Prevention	S
Module 5 Injuries of the genitourinary system	Kidney injuries: open, closed, clinic, diagnosis, treatment. Injuries of the ureters. Mechanism, diagnosis, treatment. Injury to the bladder and urethra. Etiology, diagnosis, clinic and treatment. Damage to the external genitalia, diagnosis and treatment	S
Module 6 Tumors of the genitourinary system	Tumors of the kidneys. Classification, diagnosis, clinic and treatment. Wilms tumor. Features of treatment. Tumors of the pelvis and ureters, bladder. Classification according to the TNM system. Diagnosis and treatment of testicular tumors. classification, clinic, diagnosis and treatment. Prostate cancer, diagnosis and treatment.	S
Module 7 Acute and chronic renal failure	Etiology, pathogenesis, clinic and diagnosis of acute renal failure. Causes of CRF, classification, principles of treatment. Hemodialysis. principles of the apparatus of the "artificial kidney". Kidney transplant, indications,	S
Course module title	Course module contents (topics)	
	operation technique	

* - 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	A lecture hall for lecture-type classes, equipped with a set of specialised furniture; board (screen) and technical means of multimedia presentations.	
Lab work	A classroom for laboratory work, individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and machinery.	Laboratory CO2- incubators Shellab, laminar-flow cabinet series Biowizard , microscope “Leica Microsystem CMC», inverted microscope Leica DMI8, automatic cell counter TC20, laboratory microcentrifuge MiniSpin, abacterial box, flow cytometer, freezer compartment UF V 700, cellular analyzer xCELLigence, Lab of a full cycle of histological tissue processing.
Seminar	A classroom for conducting seminars, group and individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and technical means for multimedia presentations.	Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), sets of histological preparations, a list of stands, tables, visual posters, etc
Self-studies	A classroom for independent work of students (can be used for seminars and consultations), equipped with a set of specialised furniture and computers with access to the electronic information and educational environment.	Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), sets of histological preparations, microphotographs, a list of stands, tables, visual posters, etc

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

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

1. . Urology. National leadership. / Ed. ON. Lopatkin. –M. : GEOTAR-Media, 2013. 1024.
2. Anomalies of the genitourinary system. / Under the editorship of Daryalova S.L., M., 2008.

3. Urolithiasis disease. Guide to practical exercises in oncology. Edited by Gantsev Sh.Kh., Moscow 2007.

Additional readings:

1. Injuries of the genitourinary system. Selected lectures on clinical oncology. / Under the editorship of Chissov V.I., Daryalova S.L., M., 2008.

2. Clinical guidelines. Urology. - M.: GEOTAR-Media, 2007. - 388 p.

3. Bely, L.E. Emergency urology. Guide for doctors. - M.: Medical Information Agency, 2011. - 480 p.

Internet sources

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System (RUDN ELS) <http://lib.rudn.ru/MegaPro/Web>
- EL "University Library Online" <http://www.biblioclub.ru> - EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" www.studentlibrary.ru
- EL "Lan" <http://e.lanbook.com/>
- EL "Trinity Bridge"

2. Databases and search engines:

- electronic foundation of legal and normative-technical documentation

<http://docs.cntd.ru/>

- Yandex search engine [https:// www .yandex.ru/](https://www.yandex.ru/)
- Google search engine <https://www.google.ru/>
- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

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

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

* 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-2, GC-5, GC-8, GC-9, GC-21, GPC-1, GPC-4, GPC-6, GPC-8) 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:

Head of the Department of Urology

A.A. Kostin

position, department

signature

name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

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