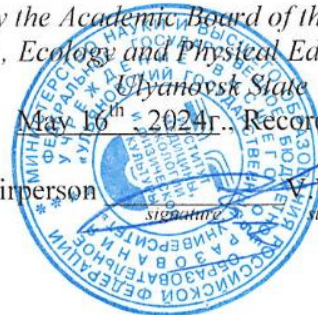


Ministry of Science and High Education of RF Ulyanovsk State University	Form	
F – Evaluation funds of the discipline		

**APPROVED**

by the Academic Board of the Institute  
for Medicine, Ecology and Physical Education at  
Ulyanovsk State University  
May 16<sup>m</sup>, 2024г. Record №9/260

Chairperson *V.V. Mashin*  
*signature* *surname, initials*



**EDUCATIONAL PLAN**

Discipline	Topical issues of endrology
Faculty	Medical faculty of T.Z. Biktimirov
Name of department	Department of hospital surgery, anesthesiology, reanimatology, urology, traumatology, orthopedics
Course	4

Direction (specialty) 31.05.01 General medicine

the code of the direction (specialty), full name

Orientation (profile/specialty) not provided

full name

Form of training \_\_\_\_\_ full-time \_\_\_\_\_

full-time, part-time, part-time (specify only those that are being implemented)

Date of introduction into the academic process at Ulyanovsk State University: 29..08.2024

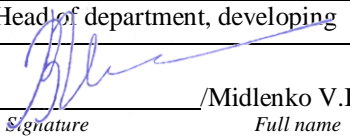
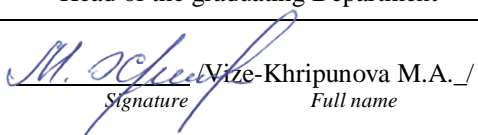
Revised at the Department meeting, Record No. \_\_\_\_\_ of \_\_\_\_\_ « \_\_\_\_\_ » 20


Revised at the Department meeting, Record No. \_\_\_\_\_ of \_\_\_\_\_ « \_\_\_\_\_ » 20

Revised at the Department meeting, Record No. \_\_\_\_\_ of \_\_\_\_\_ « \_\_\_\_\_ » 20

Information about the authors:

Initials	Abbreviation of the department	Degree, scientific rank
Klochkov V.V.	Department of hospital surgery, anesthesiology, reanimatology, urology, traumatology, orthopedics	Professor, MD, Associate Professor

Agreed	Agreed
Head of department, developing discipline	Head of the graduating Department
 _____/Midlenko V.I. / <i>Signature</i> <i>Full name</i>	 _____/Vize-Khripunova M.A. / <i>Signature</i> <i>Full name</i>
«13» May 2024 г.	«13» May 2024 г.

Ministry of Science and High Education of RF Ulyanovsk State University	Form	
F – Evaluation funds of the discipline		

### **The purpose of teaching andrology.**

To form students' knowledge about diseases of the male reproductive system, the causes of male infertility, factors contributing to the development of sexual disorders in men, as well as modern methods of diagnosis and treatment in andrology.

### **The tasks of studying andrology.**

To form students' understanding of the embryogenesis of male genitalia.

The idea of hormonal regulation of the male body.

To give an idea of the basic concepts of spermatology.

To form knowledge about the mechanisms of development of male infertility and sexual disorders in men.

To teach students methods of prevention and metaphylaxis of male infertility and sexual disorders in men.

To form students' understanding of menopausal disorders in men.

To teach students to correctly diagnose and provide therapeutic measures to patients with diseases of the male reproductive system.

The main focus of teaching andrology is the study of diseases of the male reproductive system and their complications (violation of spermatogenesis, pathology of sperm), features of metabolism and hormonal regulation of the male body, the study of the pathogenesis of disorders of sexual function.

### **1. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF THE OPOP:**

The discipline "Topical issues of andrology" refers to the disciplines of the choice of the curriculum of the specialty 31.05.01 "General medicine". B1.V.DV.04.02, studied in the 5th year in the 10th semester.

The study of the discipline "Topical issues of andrology" is preceded by: biology, anatomy, biochemistry, histology, embryology, cytology, embryonic development of body tissues, psychology and pedagogy of medical activity, normal physiology, microbiology, virology, propaedeutics of internal diseases, general surgery, immunology, physiology of visceral systems, hygiene, pharmacology, pathophysiology, clinical pathophysiology, propaedeutics of children's diseases, pathological anatomy, clinical anatomy, fundamentals of the formation of children's health, topographic anatomy and operative surgery, radiation diagnostics, faculty therapy, occupational diseases, faculty surgery, urology, dermatovenerology, otorhinolaryngology, neurology, medical genetics, obstetrics and gynecology, faculty pediatrics, endocrinology, pediatric surgery, dentistry, neonatology, neurosurgery.

Knowledge, skills and competencies in these disciplines are determined by the requirements for their development at the previous departments and are controlled by the definition of the input knowledge of the study of andrology.

## 2. THE LIST OF PLANNED LEARNING OUTCOMES IN THE DISCIPLINE (MODULE), CORRELATED WITH THE PLANNED RESULTS OF THE DEVELOPMENT OF THE EDUCATIONAL PROGRAM

**As a result of studying the discipline, the student must:**

**To know:**

1. The structure and functions of the male genitalia.
2. Malformations of the male reproductive system, diagnostics, methods of correction.
3. The endocrine glands involved in the development and functioning of the male reproductive system.
4. Causes and pathogenesis of male infertility.
5. Pathological changes in the spermogram.
6. Causes, pathogenesis, clinic and diagnosis of sexual disorders in men.
7. Clinical manifestations of menopausal disorders in men.

**Can:**

1. Interpret the spermogram.
2. Diagnose inflammatory diseases of the reproductive system in men and prostate diseases.
3. Diagnose the causes of male infertility and sexual disorders in men.

**Possess:**

1. Palpation of the organs of the scrotum and penis.
2. Rectal examination of the prostate gland.
3. Taking a smear from the urethra and prostate secretions and their interpretation.
4. Interpretation of the spermogram.
5. Interpretation of analyses for sexually transmitted diseases (RIF, DNA PCR, ELISA).
6. Evaluation of ultrasound and Dopplerography data in diseases of the scrotum and penis.
7. Evaluation of the TRUS data for prostate diseases.
8. Interpretation of blood hormones (testosterone, FSH, LH, prolactin).

A graduate who has mastered the specialty program within the framework of this program must have professional competencies corresponding to the type (types) of professional activity that the specialty program in medical activity is focused on:

- **able to** carry out a critical analysis of problem situations based on a systematic approach, develop a strategy of action (UK-1);
- **readiness to** collect and analyze patient complaints, medical history data, examination results, laboratory, instrumental, pathoanatomic and other studies in order to recognize the condition or establish the presence or absence of the disease (PC-2);
- **readiness to** manage and treat patients with various nosological forms in outpatient and day hospital settings (PC-3).

№ p/p	Competence Index	The content of the competence (or part of it)	As a result of studying the discipline, students should:		
			To know	Can	Possess
1	<b>UK-1</b>	He is able to carry out a critical analysis of problem situations based on	To know the cause and clinical manifestations	Be able to carry out a critical analysis of problematic	A systematic approach to the analysis of problematic



		a systematic approach, to develop a strategy of actions	of problematic situations in andrological patients	situations, develop a strategy for dealing with problematic situations	situations
2	<b>PC-2</b>	Readiness to collect and analyze patient complaints, medical history data, examination results, laboratory, instrumental, pathoanatomic and other studies in order to recognize the condition or establish the presence or absence of the disease	The diagnostic significance of the changes detected during the clinical examination of the patient, the use of laboratory and instrumental diagnostic methods.	Conduct a survey, physical examination of the patient; interpret the results of laboratory and instrumental diagnostics and use them in substantiating the clinical diagnosis.	Methods of clinical examination of the patient, interpretation of the results of additional research methods, algorithm for substantiating the preliminary and clinical diagnosis
3	<b>PC-3</b>	The ability to determine in patients the main pathological conditions, symptoms, disease syndromes, nosological forms in outpatient and day hospital conditions.	Causes, clinical manifestations for the diagnosis of andrological pathology in outpatient and day hospital conditions.	Diagnose diseases of the reproductive system in men on an outpatient basis and in a day hospital.	Methods of diagnosis of the main clinical syndromes in andrology. An analysis algorithm for making a detailed clinical diagnosis with diseases of the reproductive system in men in outpatient and day hospital conditions.

### 3. THE SCOPE OF THE DISCIPLINE

#### 3.1. The amount of discipline in credits (total) 2 ZET 72 hours

#### 3.2. by type of academic work (in hours)

Type of educational work	Number of hours (form of study ___ 72 hours ___)	
	Total according to plan	Including semesters
		Semester no. 1;2
1	2	3
Contact work of students with the teacher	54	2
Classroom classes:	54	54
Lectures	-	-
practical and seminar classes	54	54
laboratory work (laboratory workshop)	-	-
Independent work	18	18
Current control (quantity and type: counter.work, colloquium, abstract)		
Course paper	-	-
Types of intermediate certification (exam, credit)	credit	credit
Total hours by discipline	72	72

#### 3.3. The content of the discipline (module.) Distribution of hours by topics and types of academic work:

Form of study \_\_\_ full-time \_\_\_\_\_

Name of sections and topics	Total	Types of training sessions				
		Classroom classes			Classes in an interactive form	Independent work
		lectures	practical classes, seminar	laboratory work		
1	2	3	4	5	6	7
<b>Section 1. Anatomy and physiology of the male reproductive system</b>						
1. Anatomy of the male reproductive system	8	—	1,5	—	0,15	0,5
2. Physiology of the male reproductive system			1,5	—	0,15	0,5
3. Methods of examination of the reproductive			1,5	—	0,15	0,5

system in men						
4. Assessment of psychological status. Assessment of sexual development.			1,5	–	0,15	0,5
<b>Section 2. Embryology and malformations of male genital organs</b>						
Embryogenesis: 1. Development of the sex glands; 2. Development of internal sex glands; 3. Development of external genitalia.	8	–	3	–	0,3	1
Malformations of development: 1. Anomalies of testicular position (cryptorchidism); 2. Anomalies of the structure and number of testicles; 3. Hypospadias; 4. Epispadia; 5. Hidden penis; 6. Phimosis, a short frenulum of the penis.			3	–	0,3	1
<b>Section 3. Inflammatory diseases of the male genital organs</b>						
1. Inflammatory diseases of the urethra	8	–	1	–	0,1	0,3
2. Inflammatory diseases of the prostate gland			1	–	0,1	0,3
3. Inflammatory diseases of the scrotum			1	–	0,1	0,3
4. Inflammatory diseases of seminal vesicles and seminal tubercle			1	–	0,1	0,3
5. Inflammatory diseases of the penis			1	–	0,1	0,3
6. Fournier's						

gangrene.			1	–	0,1	0,3
<b>Section 4. Male genital injuries</b>						
1. Damage to the urethra	8	–	2	–	0,2	0,66
2. Damage to the organs of the scrotum			2	–	0,2	0,66
3. Damage to the penis			2	–	0,2	0,66
<b>Section 5. Neoplasms of the male genital organs</b>						
1. Benign prostatic hyperplasia.	8	–	1,5	–	0,15	0,5
2. Prostate cancer.			1,5	–	0,15	0,5
3. Testicular tumors.			1,5	–	0,15	0,5
4. Tumors of the penis			1,5	–	0,15	0,5
<b>Section 6. Psychology and physiology of human sexual life. Sexual disorders in men.</b>						
1. Physiology and psychology of sexual intercourse.	8	–	2	–	0,2	0,66
2. Erectile dysfunction.			2	–	0,2	0,66
3. Disorders of male orgasm and ejaculation.			2	–	0,2	0,66
<b>Section 7. Male infertility</b>						
1. Spermatogenesis. Pathospermia.	8	–	2	–	0,2	0,66
2. Etiology, pathogenesis, diagnosis of male infertility.			2	–	0,2	0,66
3. Treatment of male infertility.			2	–	0,2	0,66
<b>Section 8. Urgent conditions and other diseases in andrology</b>						
1. Priapism	8	–	1	–	0,1	0,3
2. Twisting of the testicle			1	–	0,1	0,3
3. Paraphimosis			1	–	0,1	0,3
4. Acute urinary retention in men.			1	–	0,1	0,3
5. Peyronie's disease.			1	–	0,1	0,3
6. Oleogranuloma of the penis.			1	–	0,1	0,3
<b>Section 9. Delayed sexual development and male hypogonadism</b>						

1. Androgens and their role in the male body.	8	—	2	—	0,2	0,66
2. Hypogonadism in men (andropause)			2	—	0,2	0,66
3. Pathology of sex. Surgical correction of the floor.			2	—	0,2	0,66
Credit						
Total: 72 hours	72	—	54	—	6	18

When organizing classes in an interactive form, technologies are used: collective discussion of the topic of the lesson, presentation of the report.

#### 4. THE CONTENT OF THE COURSE OF LECTURES

Lectures are not provided

#### 5. TOPICS OF PRACTICAL AND SEMINAR CLASSES

##### Section 1. Anatomy and physiology of the male reproductive system

**Topic 1. Anatomy of the male reproductive system** Anatomy of the penis, urethra; Anatomy of the accessory sex glands: prostate gland, seminal vesicles, bulbourethral glands, paraurethral glands.

Anatomy of the scrotum and its organs: testicle, appendage, spermatic cord.

Anatomy of the vas deferens, the vas deferens. Anatomy of the hydatid of the testicle, appendage and ducts.

##### Topic 2. Physiology of the male reproductive system

Physiology of the penis, phases of erection;

Physiology and functions of the urethra

Physiology and functions of the prostate gland

Physiology and functions of seminal vesicles and seminal tubercle

Physiology and functions of the bulbous-urethral gland (Cooper's gland)

Physiology and functions of the testicle and its appendage

Physiology and functions of the vas deferens

Physiology and functions of the spermatic cord

Physiology and functions of the scrotum

##### Topic 3. Methods of examination of the reproductive system in men

Assessment of the condition of the testicles

Evaluation of external genitalia

Assessment of the stage of sexual development

Definition of body type

Study of the content of gonadotropins and sex hormones in the blood and their metabolites in the urine, taking into account the daily rhythms


Visualization of testicles and prostate in men (ultrasonography)

Diagnostic laparoscopy for hermaphroditism and congenital cryptorchidism

Sperm research

Testicular biopsy (performed if a tumor and testicular dysgenesis are suspected)



Ministry of Science and High Education of RF Ulyanovsk State University	Form	
F – Evaluation funds of the discipline		

#### **Topic 4. Assessment of sexological status. Assessment of sexual development.**

Collecting anamnesis.

Examination of the external genitalia.

Questionnaires and questionnaires: male sexual formula; international index of erectile function; scale of quantitative assessment of male copulatory function (MCF)

Laboratory diagnostics: ejaculate microscopy; biochemical analysis of seminal plasma; PSA study; blood acid phosphatase level study; hormonal studies in blood plasma (FSH, LH, prolactin, testosterone, estradiol)

Instrumental research methods: Ultrasound of the scrotum and prostatovesicular complex; duplex scanning of penile vessels; measurement of nocturnal penile tumescence; morphometry of external genitalia.

X-ray methods: cavernosography, MRI.

Diagnostic andrological operations: testicular biopsy; revision of inguinal canals; vesiculography, revision of scrotum organs.

Puberty (stages of sexual development according to Tanner, classification of stages of puberty in boys, assessment of the stage of sexual development in boys)

### **Section 2. Embryology and malformations of male genital organs**

#### **Topic 1. Embryogenesis of the genitals in men**

1. Development of the sex glands
2. Development of internal sex glands
3. Development of external genitalia

#### **Topic 2. Anomalies of the development of the organs of the male reproductive system. Clinic, diagnosis, treatment.**

Penile abnormalities: hidden penis; webbed penis;

phimosis; synechiae; paraphimosis;

Testicular anomalies: position anomalies (cryptorchidism)

Quantitative testicular anomalies: polyorchism; sinorchidism; monorchism (unilateral testicular agenesis); anarchism (gonadal agenesis)

Structural abnormalities of the testicles: hermaphroditism (bisexuality); syndrome feminizing testicles; Klinefelter syndrome (dysgenesis of the seminal canals); Shereshevsky-Turner syndrome

Secondary testicular dysfunction: adiposogenital dystrophy; syndrome

Noonan; Cullman de Mercier syndrome; Laurence-Moon-Bardet-Beadle syndrome

Anomalies of the urethra: hypospadias; epispadias

### **Section 3. Inflammatory diseases of the male genital organs**


Topic 1. Inflammatory diseases of the urethra

Topic 2. Inflammatory diseases of the prostate gland

Topic 3. Inflammatory diseases of the scrotum

Topic 4. Inflammatory diseases of seminal vesicles and seminal tubercle

Topic 5. Inflammatory diseases of the penis

Ministry of Science and High Education of RF Ulyanovsk State University	Form	
F – Evaluation funds of the discipline		

## Topic 6. Fournier's gangrene

### **Section 4. Male genital injuries.**

Topic 1. Damage to the urethra: closed damage, open lesions, urethral strictures

Topic 2. Damage to the organs of the scrotum: closed damage, open damage

Topic 3. Penile injuries: closed, open injuries

### **Section 5. Neoplasms of the male genital organs**

Topic 1. Benign prostatic hyperplasia.

Topic 2. Prostate cancer.

Topic 3. Testicular tumors

Topic 4. Penile tumors

### **Section 6. Psychology and physiology of human sexual life. Sexual disorders in men.**

Topic 1. Physiology and psychology of sexual intercourse.

Topic 2. Erectile dysfunction.

Topic 3. Disorders of male orgasm and ejaculation.

### **Section 7. Male infertility**

Topic 1. Spermatogenesis. Pathospermia.

Topic 2. Etiology, pathogenesis, diagnosis of male infertility.

Topic 3. Treatment of male infertility.

### **Section 8. Urgent conditions and other diseases in andrology**

Topic 1. Priapism

Topic 2. Testicle twisting

Topic 3. Paraphimosis

Topic 4. Acute urinary retention in men.

Topic 5. Peyronie's disease.

Topic 6. Oleogranuloma of the penis.


### **Section 9. Delayed sexual development and male hypogonadism**

Topic 1. Delayed sexual development in boys

Classification and characteristics of the main forms of ZPR in boys; clinical forms of delayed sexual development in boys and adolescents, laboratory methods for delayed sexual development and hypogonadism; treatment of delayed sexual development of hypogonadism; medical examination of boys and adolescents with delayed sexual development

Topic 2. Androgens and their role in the male body.

Topic 3. Hypogonadism in men, andropause

Ministry of Science and High Education of RF Ulyanovsk State University	Form	
F – Evaluation funds of the discipline		

Hypergonadotropic (primary) hypogonadism; hypogonadotropic (secondary and tertiary) hypogonadism, normogonadotropic hypogonadism.  
Andropause

Topic 4. Pathology of sex. Surgical correction of the floor.

### **6. LABORATORY WORK (LABORATORY WORKSHOP)**

Not provided

### **7. TOPICS OF TERM PAPERS, CONTROL PAPERS, ABSTRACTS**

1. Theme: Embryogenesis of external and internal male genitalia
2. Theme: Assessment of the sexological status. Assessment of sexual development.
3. Theme: Spermatogenesis. Pathospermia.
4. Theme: Surgical correction of sex.
5. Theme: Fournier's gangrene. Oleogranuloma of the penis, clinic, diagnosis, treatment
6. Theme: Peyronie's disease, Priapism. Clinic, diagnosis, treatment.
7. Theme: Androgens and their role in the male body. Menopausal syndrome in men.
8. Theme: Psychology and physiology of human sexual life.

### **8. INDEPENDENT WORK OF STUDENTS**

Independent work of students is divided into extracurricular and classroom. In addition, practical skills are obtained and practiced during the contact work of students with a teacher in the form of interactive forms of learning. Independent study of the topic section involves the control of theoretical training in a practical lesson, a test and a final exam.


\* Classroom section of the SRS. At each practical lesson – patient curation on the topic under study, working out the methods of examination of the patient, highlighting the leading clinical syndrome complexes, interpretation of laboratory and instrumental data, analysis of endoscopic, ultrasound, X-ray data, CTG, MRI, angiograms, etc. Assessment of physical data in andrological pathology. Curation of patients. Drawing up plans for examination and treatment of the patient, carrying out a differential diagnosis according to the leading syndromes and signs of diseases.

\*\* Extracurricular section – topics of self-study.

\*\*\* Topics of interactive learning in the simulation class of IMEaPC (Institute of Medicine Ecology and Physical Culture) UISU. \*\*\*\* Development of practical skills in andrology on the basis of a simulation course. Palpation of the external genitalia, prostate gland, catheterization of the bladder, preparation for laparoscopic surgery.

#### **8.1 Abstracts for the control of independent work of students**

1. Theme: Embryogenesis of external and internal male genitalia
2. Theme: Assessment of the sexological status. Assessment of sexual development.
3. Theme: Spermatogenesis. Pathospermia.
4. Theme: Surgical correction of sex.
5. Theme: Fournier's gangrene. Oleogranuloma of the penis, clinic, diagnosis, treatment
6. Theme: Peyronie's disease, Priapism. Clinic, diagnosis, treatment.
7. Theme: Androgens and their role in the male body. Menopausal syndrome in men.

Ministry of Science and High Education of RF Ulyanovsk State University	Form	
F – Evaluation fundsofthe discipline		

8. Theme: Psychology and physiology of human sexual life.

## 9. EDUCATIONAL-METHODOLOGICAL AND INFORMATION SUPPORT OF THE DISCIPLINE

a) List of recommended literature main:

b) Professed data base, directory and search systems:

1 Андреева М. В. Diseases of the urinary tract, kidney and pregnancy = Заболевания мочевыводящих путей, почек и беременность : study guide / М. В. Андреева, Е. П. Шевцова, Ж. С. Мартинсон. - Волгоград : ВолгГМУ, 2021. - 88 с. - ISBN 9785965206308. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/diseases-of-the-urinary-tract-kidney-and-pregnancy-13816236/>

2 [Белякова Е. В. Main syndromes in nephrology = Основные синдромы в нефрологии : учебное пособие для студентов II–III курсов лечебного факультета : methodic material is recommended for medical students \(II and III years\) / Е. В. Белякова, Д. Н. Емельянов, В. В. Скворцов. - Волгоград : ВолгГМУ, 2022. - 72 с. - ISBN 9785965207862. - Текст : электронный // ЭБС "Букап" : \[сайт\]. - URL : <https://www.books-up.ru/ru/book/main-syndromes-in-nephrology-15846414/>](https://www.books-up.ru/ru/book/main-syndromes-in-nephrology-15846414/)

Additional literature:

1 Smirnova A. Yu. Basis of functional and laboratory diagnostics : textbook of medicine for medicine faculty students / Smirnova A. Yu., V. V. Gnoevykh; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Ulyanovsk : ULSU, 2018. - 163 p. : ill. - Текст на англ. яз. URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/1237> . - Режим доступа: ЭБС УлГУ. - Текст : электронный.

2 Рогова Л. Н. Diagnostic hemostasis and thrombosis tests / Л. Н. Рогова. - Волгоград : ВолгГМУ, 2019. - 76 с. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/diagnostic-hemostasis-and-thrombosis-tests-9756585/>

Educational- methodical:

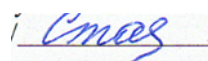
Klochkov V. V.

Guidelines for the organization of independent work of students in the discipline "Urology and andrology" for the specialty 31.05.01 "General medicine" (with the development of the program in English) / V. V. Klochkov; Ulyanovsk State University. - 2022. - 32 p. - Неопубликованный ресурс; На англ. яз. - URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/13616>. - Режим доступа: ЭБС УлГУ. - Текст : электронный.

AGREED:

Leading specialist

Стадольникова/




2024\_

The position of the worker scientific library

Full name

signature

date

Ministry of Science and High Education of RF Ulyanovsk State University	Form	
F – Evaluation funds of the discipline		

*Профессиональные базы данных, информационно-справочные системы*

**1. Электронно-библиотечные системы:**

1.1. Цифровой образовательный ресурс IPRsmart : электронно-библиотечная система : сайт / ООО Компания «Ай Пи Ар Медиа». - Саратов, [2024]. – URL: <http://www.iprbookshop.ru>. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.2. Образовательная платформа ЮРАЙТ : образовательный ресурс, электронная библиотека : сайт / ООО Электронное издательство «ЮРАЙТ». – Москва, [2024]. - URL: <https://urait.ru>. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.3. База данных «Электронная библиотека технического ВУЗа (ЭБС «Консультант студента») : электронно-библиотечная система : сайт / ООО «Политехресурс». – Москва, [2024]. – URL: <https://www.studentlibrary.ru/cgi-bin/mb4x>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.4. Консультант врача. Электронная медицинская библиотека : база данных : сайт / ООО «Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг». – Москва, [2024]. – URL: <https://www.rosmedlib.ru>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.5. Большая медицинская библиотека : электронно-библиотечная система : сайт / ООО «Букап». – Томск, [2024]. – URL: <https://www.books-up.ru/ru/library/>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.6. ЭБС Лань : электронно-библиотечная система : сайт / ООО ЭБС «Лань». – Санкт-Петербург, [2024]. – URL: <https://e.lanbook.com>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.7. ЭБС Znanium.com : электронно-библиотечная система : сайт / ООО «Знаниум». - Москва, [2024]. - URL: <http://znanium.com>. – Режим доступа : для зарегистрир. пользователей. - Текст : электронный.

**2. КонсультантПлюс** [Электронный ресурс]: справочная правовая система. / ООО «Консультант Плюс» - Электрон. дан. - Москва : КонсультантПлюс, [2024].

**3. eLIBRARY.RU**: научная электронная библиотека : сайт / ООО «Научная Электронная Библиотека». – Москва, [2024]. – URL: <http://elibrary.ru>. – Режим доступа : для авториз. пользователей. – Текст : электронный

**4. Федеральная государственная информационная система «Национальная электронная библиотека»** : электронная библиотека : сайт / ФГБУ РГБ. – Москва, [2024]. – URL: <https://нэб.рф>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

**5. Российское образование** : федеральный портал / учредитель ФГАУ «ФИЦТО». – URL: <http://www.edu.ru>. – Текст : электронный.


**6. Электронная библиотечная система УлГУ** : модуль «Электронная библиотека» АБИС Мега-ПРО / ООО «Дата Экспресс». – URL: <http://lib.ulsu.ru/MegaPro/Web>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

Инженер ведущий



Щуренко Ю.В.

2024

Ministry of Science and High Education of RF Ulyanovsk State University	Form	
F – Evaluation funds of the discipline		

## 10. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE:

Lecture halls, a study room for seminars, for conducting ongoing monitoring and intermediate attestation, group and individual consultations.

The classrooms are equipped with specialized furniture, a blackboard. Lecture halls are equipped with multimedia equipment to provide information to a large audience. The premises for independent work are equipped with computer equipment with the ability to connect to the Internet and provide access to an electronic information and educational environment, an electronic library system.

## 11. SPECIAL CONDITIONS FOR STUDENTS WITH DISABILITIES

If necessary, students from among persons with disabilities (at the request of the student) may be offered one of the following options for the perception of information, taking into account their individual psychophysical characteristics:

( for persons with visual impairments: in printed form with enlarged font; in the form of an electronic document; in the form of an audio file (translation of educational materials into audio format); in printed form in Braille; individual consultations with the involvement of a typhoid translator; individual assignments and consultations; ( for persons with hearing impairments: in printed form; in the form of an electronic document; video materials with subtitles; individual consultations with the involvement of a sign language interpreter; individual tasks and consultations; ( for persons with disorders of the musculoskeletal system: in printed form; in the form of an electronic document; in the form of an audio file; individual assignments and consultations.



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Associate Professor Vladimir Valerievich Klochkov