

## Master's, Doctoral and Post-doctoral Track Program: Clinical Medicine and Public Health

### 1. Open Doors winner's skill set

Winning the Open Doors competition requires:

- knowledge of the fundamentals of normal and pathological human anatomy and physiology, and the ability to correlate them with clinical manifestations of diseases;
- understanding the basics of pharmacology, including the principles of classification and use of major groups and subgroups of medicinal products;
- knowledge of the fundamentals of etiology and pathogenesis, risk factors, clinical manifestations, and diagnostic principles of human diseases, as well as methods of pharmacological and surgical treatment, and the ability to apply this knowledge to solve clinical case-based problems;
- having a solid grasp of evidence-based medicine and the organization of scientific research in medicine, including the ability to analyze research results and present findings in both oral and written form;
- understanding the epidemiological characteristics of infectious diseases and the ability to plan preventive and control measures;
- knowledge of the criteria of public health and the ability to calculate and interpret them;
- knowledge of the approaches to health promotion and the ability to develop preventive intervention programs.

### 2. List of degree programs covered by the subject area

#### 2.1. List of doctoral degree programs

3.1.4 Obstetrics and gynecology

3.1.7 Dentistry

3.1.9 Surgery

3.1.18 Internal diseases

3.2.3 Public health, organization and sociology of healthcare, medical and social expertise

3.3.3 Pathological physiology

3.3.6 Pharmacology, clinical pharmacology

#### 2.2. List of master's degree programs

32.04.01 Public health

### 3. Content

#### Field of science 1. Pathology

1. Cell injury
2. Dystrophy
3. Inflammation
4. Disorders of thermoregulation. Fever
5. Derangements of homeostasis and metabolic disturbances
6. Haemodynamic derangements
7. Immunopathology
8. Tumors
9. Diseases of the blood cell system
10. Diseases of the heart and cardiovascular system
11. Diseases of the respiratory system
12. Diseases of the gastrointestinal tract, liver and exocrine pancreas
13. Diseases of the kidney and lower urinary tract

14. Diseases of the nervous system
15. Diseases of the endocrine system
16. Diseases of the reproductive system (male and female)
17. Diseases of the oral cavity and teeth

**Field of science 2. Pharmacology**

1. Pharmacokinetics and pharmacodynamics
2. Drugs affecting afferent innervations
3. Drugs affecting efferent innervations
4. Drugs regulating the functions of the central nervous system
5. Drugs regulating functions of organs and their systems
6. Drugs that control metabolic processes
7. Anti-inflammatory drugs and drugs affecting the immune system
8. Antimicrobial and antiparasitic drugs
9. Antineoplastic drugs

**Field of science 3. Medicine, General and Internal**

1. Arterial hypertension
2. Angina pectoris and chronic ischemic heart disease
3. Diabetes mellitus
4. Anemia: differential diagnosis
5. Pneumonia
6. Chronic obstructive pulmonary disease
7. Peptic ulcer and related disorders
8. Inflammatory bowel diseases
9. Chronic hepatitis
10. Cirrhosis liver disease
11. Chronic kidney disease
12. Fundamentals of evidence-based medicine

**Field of science 4. Surgery**

1. Surgical anatomy of the abdomen; abdominal surgical incisions and closure and suture techniques; wounds and wound infections, and modern approaches to their treatment
2. Acute abdominal conditions: appendicitis, cholecystitis, pancreatitis, peptic ulcer, intestinal obstruction, and peritonitis
3. General principles of diagnosis and management of acute abdominal pain; differential diagnosis of abdominal pain
4. Hernias of the abdominal wall: classification, diagnosis, and treatment
5. Minimally invasive and robotic surgery: general principles of access and interventions (laparoscopic cholecystectomy and appendectomy)
6. Perioperative medicine: prevention and treatment of surgical infections; thromboembolic prophylaxis and treatment; transfusion, fluid and electrolyte therapy, and nutrition in the surgical patient

**Field of science 5. Dentistry, Oral Surgery and Medicine**

1. Anatomy of the maxillofacial system
2. Organization of dental care
3. Examination of the dental patient
4. Classification, diagnosis and treatment of dental diseases (caries, abnormalities of tooth structure, pulpitis, periapical periodontitis, periodontal diseases)

5. Anaesthesia in dental practice
6. Tooth extraction methods
7. Prevention of dental diseases
8. Oral and maxillofacial surgery: fundamental principles of diagnosis and management for dental, jaw, oral soft tissue and related anatomical disorders

#### Field of science 6. Infectious Diseases

1. Morbidity: definition and key terms, causes, patterns, indicators
2. Epidemic process (transmission dynamics): definition and key terms, epidemiological triad, prevention strategies, core theories (chain of infection model, natural foci theory, self-regulation of parasitic systems, social-ecological theory)
3. Sources of infection: types and disease classification by source
4. Transmission of infectious diseases: mechanisms, routes and factors
5. Susceptibility to infectious diseases, herd immunity
6. Immunization: timeline and basic concepts of immunology, types of vaccines, vaccination schedule
7. Etiology, pathogenesis, clinical manifestations, diagnostic approaches, treatment and prevention of infectious diseases

#### Field of science 7. Public Health

1. Public health and its determinants
2. Public health and epidemiological methods. Biostatistics: organization of statistical research, types of data, methods for analyzing and finding correlations
3. Medical and social aspects of demography: subject of study, branches, indicators, trends
4. Disability as a medical and social problem: definition, causes, trends, rehabilitation approaches
5. Noncommunicable diseases
6. Risk factors: classification and assessment
7. Preventive medicine: types, goals and objectives of prevention, preventive effectiveness and strategies (population, high-risk and individual)

#### 4. Preparation materials

##### 4.1. Recommended reading

##### Field of science 1. Pathology

###### Reading list in English

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Harsh Mohan. Textbook of pathology 6th edition. Jaypee Brothers Medical Pub, 2010. 933 p.<br>URL: <a href="https://drive.google.com/file/d/1jhA1AqpsOIR7NE5MyWvd6nPyVIL7CMkK/view">https://drive.google.com/file/d/1jhA1AqpsOIR7NE5MyWvd6nPyVIL7CMkK/view</a>                                      |
| Pathological Anatomy: textbook / ed. by V. S. Paukov. Moscow: GEOTAR-Media, 2022. 752 p.<br>URL: <a href="https://www.rosmedlib.ru/book/ISBN9785970471135.html">https://www.rosmedlib.ru/book/ISBN9785970471135.html</a>                                                                           |
| P. F. Litvitsky, S. V. Pirozhkov, I. A. Budnik. Pathophysiology 4th edition. Moscow: GEOTAR-Media, 2025. 376 p. URL: <a href="https://medknigaservis.ru/product/rathophysiology-concise-lectures-tests-cases/">https://medknigaservis.ru/product/rathophysiology-concise-lectures-tests-cases/</a> |

##### Field of science 2. Pharmacology

###### Reading list in English

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alyautdin R. N. Pharmacology. Illustrated textbook. Moscow: GEOTAR-Media, 2020. 312 p.<br>URL: <a href="https://www.rosmedlib.ru/book/ISBN9785970456651.html">https://www.rosmedlib.ru/book/ISBN9785970456651.html</a>                                                                                        |
| Janet Stringer. Basic Concepts in Pharmacology: What you Need to Know for Each Drug Class: 4th edition. McGraw-Hill Companies, 2011. 254 p.<br>URL: <a href="http://lib.ysu.am/disciplines_bk/027d2400206777244b5e2b8259a56efb.pdf">http://lib.ysu.am/disciplines_bk/027d2400206777244b5e2b8259a56efb.pdf</a> |

Kerry Layne, Albert Ferro. 100 cases in Clinical Pharmacology, Therapeutics and Prescribing. CRC Press, 2020. 249 p. URL: <a href="https://repository.unar.ac.id/Kerry_Layne_Albert_Ferro_100_cases_in_clinical_pharmacology.pdf">https://repository.unar.ac.id/Kerry_Layne_Albert_Ferro_100_cases_in_clinical_pharmacology.pdf</a>
Kharkevitch D. A. Pharmacology: textbook. Translation of Russian textbook, 12th edition, revised and improved. Moscow: GEOTAR-Media, 2023. 680 p. URL: <a href="https://www.rosmedlib.ru/book/ISBN9785970470886.html">https://www.rosmedlib.ru/book/ISBN9785970470886.html</a>

### Field of science 3. Medicine, general and internal

<b>Reading list in English</b>
Goldman L., Schafer A. Goldman-Cecil Medicine, 2-Volume Set. 27th edition. Elsevier, 2023. 3040 p. URL: <a href="https://shop.elsevier.com/books/goldman-cecil-medicine-2-volume-set/goldman/978-0-323-93038-3">https://shop.elsevier.com/books/goldman-cecil-medicine-2-volume-set/goldman/978-0-323-93038-3</a>
Kasper D., Fauci A., Hauser S., Longo D., Jameson J., Loscalzo J. Harrison's Principles of Internal Medicine. 19th edition. New York: McGraw Hill Education, 2016. 3984 p. URL: <a href="https://archive.org/details/Principles of Internal Medicine">https://archive.org/details/Principles of Internal Medicine</a>
Sharon E. Straus, Paul Glasziou, W. Scott Richardson, R. Brian Haynes. Evidence-Based Medicine: How to Practice and Teach EBM. Elsevier, 2019. 324 p. URL: <a href="https://books.google.ru/books?id=BkRPDwAAQBAJ&amp;printsec=frontcover&amp;hl=ru#v=onepage&amp;q&amp;f=false">https://books.google.ru/books?id=BkRPDwAAQBAJ&amp;printsec=frontcover&amp;hl=ru#v=onepage&amp;q&amp;f=false</a>
V. T. Ivashkin, A.V. Okhlobystin, K.V. Ivashkin. Propedeutics of internal diseases. Textbook. Moscow: GEOTAR-Media, 2024. 776 p. URL: <a href="https://medknigaservis.ru/product/propedeutics-of-internal-diseases-textbook-el-versiya/">https://medknigaservis.ru/product/propedeutics-of-internal-diseases-textbook-el-versiya/</a>

### Field of science 4. Surgery

<b>Reading list in English</b>
A. Thoma, S. Sprague, S.H. Voineskos, Ch.H. Goldsmith. Evidence-Based Surgery. A Guide to Understanding and Interpreting the Surgical Literature. Springer Cham. 2019. 360 p. URL: <a href="https://doi.org/10.1007/978-3-030-05120-4">https://doi.org/10.1007/978-3-030-05120-4</a>
Brunicaudi F. C., Andersen D. K., Billiar T.R., Dunn D.L., Kao L. S., Hunter J.G., Matthews J.B., Pollock R. E. Schwartz's Principles of Surgery, 11th edition. McGraw Hill, 2019. 2224 p. URL: <a href="https://centlib.mui.ac.ir/sites/centlib/files/amin-lib/ebooks/Schwartz's Principles of Surgery.pdf">https://centlib.mui.ac.ir/sites/centlib/files/amin-lib/ebooks/Schwartz's Principles of Surgery.pdf</a>
Fiona Myint. Kirk's Basic Surgical Techniques 8th edition. Elsevier Health Sciences, 2024. 264 p. URL: <a href="https://shop.elsevier.com/books/kirks-basic-surgical-techniques/myint/978-0-443-11367-3">https://shop.elsevier.com/books/kirks-basic-surgical-techniques/myint/978-0-443-11367-3</a>
Gossage J., Modarai B., Sahai A., Worth R. 100 cases in surgery. 2nd edition. CRC Press, 2013. 241 p. URL: <a href="https://umfmed.wordpress.com/wp-content/uploads/2013/03/100-casesurgery.pdf">https://umfmed.wordpress.com/wp-content/uploads/2013/03/100-casesurgery.pdf</a>

### Field of science 5. Dentistry, Oral Surgery and Medicine

<b>Reading list in English</b>
Oral Surgery: textbook / ed. by S. V. Tarasenko. Moscow: GEOTAR-Media, 2023. 640 p. URL: <a href="https://www.rosmedlib.ru/book/ISBN9785970470800.html">https://www.rosmedlib.ru/book/ISBN9785970470800.html</a>
Preclinical course of dentistry. Part I. Introduction to dentistry: textbook / eds A. V. Sevbitov, A. E. Dorofeev. Moscow: GEOTAR-Media, 2024. 184 p. URL: <a href="https://www.rosmedlib.ru/book/ISBN9785970482735.html">https://www.rosmedlib.ru/book/ISBN9785970482735.html</a>
The Oxford Handbook of Clinical Dentistry 6th ed. Oxford University Press, 2014. 813 p. URL: <a href="http://81.143.226.227/books/medical/Oxford_Handbook_of_Clinical_Dentistry_6e_-_Laura_Mitchell.pdf">http://81.143.226.227/books/medical/Oxford_Handbook_of_Clinical_Dentistry_6e_-_Laura_Mitchell.pdf</a>

**Field of science 6. Infectious Diseases****Reading list in English**

David D. Celentano, Moyses Szklo. Gordis Epidemiology 6th edition. Elsevier, 2019. 434 p.  
URL: <https://dl.konkur.in/2022/12/Epidemiology2019-%5Bwww.konkur.in%5D.pdf>

Kenrad E. Nelson, Carolyn Masters Williams. Infectious Disease Epidemiology: Theory and Practice. Jones & Bartlett Learning, 2014. 981 p.  
URL: [https://alraziuni.edu.ye/uploads/pdf/book1/صحة-عامة/Kenrad-E.-Nelson-Carolyn-Masters-Williams-Infectious-Disease-Epidemiology\\_-Theory-and-Practice-Jones-Bartlett-Learning-2012.pdf](https://alraziuni.edu.ye/uploads/pdf/book1/صحة-عامة/Kenrad-E.-Nelson-Carolyn-Masters-Williams-Infectious-Disease-Epidemiology_-Theory-and-Practice-Jones-Bartlett-Learning-2012.pdf)

Yushchuk N. D., Vengerov Yu. Ya. Infectious diseases: textbook. Moscow: GEOTAR-Media, 2020. 464 p.

URL: <https://www.rosmedlib.ru/book/ISBN9785970455043.html>

**Field of science 7. Public Health****Reading list in English**

Begun D.N., Borshchuk E.L., Begun T.V. Course book for practical training in the sphere of public health and health care. Orenburg: OrSMU, 2018. 121 p.

URL: [https://www.orgma.ru/files/kafedry/kafedra-obshchestvennogo-zdorovya-i-zdravoohraneniya-1/info\\_stud/new/FF2/Textbook.pdf](https://www.orgma.ru/files/kafedry/kafedra-obshchestvennogo-zdorovya-i-zdravoohraneniya-1/info_stud/new/FF2/Textbook.pdf)

Gorbunov V. I., Vozzhennikova G. V., Isaeva I. N., Gorbunov M. V. Public health and Healthcare: main ways of cognition: textbook. Ulyanovsk: Ulsu, 2017. 182 p.

URL: <https://www.ulsu.ru/media/uploads/iriskor%40mail.ru/2017/10/27/Public%20health.pdf>

James F. McKenzie, Robert R. Pinger, Denise M. Seabert. An Introduction to Community and Public Health 9th edition. Jones and Bartlett Learning, 2018. 558 p.

URL: [https://students.aiu.edu/submissions/profiles/resources/onlineBook/L8i4G3\\_Introduction to Community and Public Health-2016.pdf](https://students.aiu.edu/submissions/profiles/resources/onlineBook/L8i4G3_Introduction to Community and Public Health-2016.pdf)

Jekel's Epidemiology, Biostatistics, Preventive Medicine, and Public Health. 5th edition.

Elsevier Science, 2020. 432 p. URL: <https://www.us.elsevierhealth.com/jekels-epidemiology-biostatistics-preventive-medicine-and-public-health-9780323642019.html>

World Health Organization and World Bank. World report on disability. 2011. 350 p.

URL: <https://apps.who.int/iris/handle/10665/44575>

World Health Organization. Global health risks: mortality and burden of disease attributable to selected major risks. 2009. 64 p. URL: <https://apps.who.int/iris/handle/10665/44203>

**4.2. Recommended online courses****Field of science 1. Pathology**

Online courses in English	Link	Course description
Cell Injury and Cell Death	<a href="https://sechenov.online/course/cell-injury-and-cell-death">https://sechenov.online/course/cell-injury-and-cell-death</a>	The course provides an introduction to the different types of cellular adaptations that can occur, both physiologically and pathologically, in response to damage. The course also discusses the various types of cell death, such as apoptosis, autophagy, and necrosis, and the different subtypes that can occur if cells are unable to adapt. The course includes lecture materials accompanied by presentations and video recordings. The course promotes a deeper understanding of the complexities involved in the various factors that can cause cellular damage, including chemical, physical, as well as factors

		within the cell.
General Pathophysiology	<a href="https://openedu.ru/course/spbu/GENPATHOPH/?session=spring_2023">https://openedu.ru/course/spbu/GENPATHOPH/?session=spring_2023</a>	The course examines the subject and methods of pathophysiology, including general nosology, which deals with the concepts of health and disease, the general etiology and pathogenesis of pathological processes and states. The course includes lectures and self-assessment quizzes. The course provides a systematic overview of typical pathological processes such as arterial, venous, and combined hyperemia, stasis, inflammation, immunopathological processes including allergies and autoimmune disorders, acute phase responses, fever, shock, and other related topics.
Pathology	<a href="https://www.classcentral.com/course/xuetangx-pathology-369493">https://www.classcentral.com/course/xuetangx-pathology-369493</a>	The course covers issues of general pathology, including cell and tissue damage, circulatory disorders, inflammation, and neoplasms. The course includes lecture materials accompanied by presentations and video recordings. The course enables students to apply acquired knowledge to real-world scenarios in pathology.

## Field of science 2. Pharmacology

Online courses in English	Link	Course description
Introduction to Pharmacology	<a href="https://www.classcentral.com/classroom/youtube-pharmacology-80239">https://www.classcentral.com/classroom/youtube-pharmacology-80239</a>	The course provides an introduction to pharmacology. The course includes lecture materials accompanied by presentations and video recordings. The course facilitates the acquisition of experience in classifying drugs, including their categories, names, and schedules, as well as methods of administration, pharmacokinetics, pharmacodynamics, and the main groups of medications.
Pharmacogenomics - Understanding Personalized Medicine	<a href="https://www.classcentral.com/classroom/youtube-pharmacology-pharmacogenomics-made-easy-433675">https://www.classcentral.com/classroom/youtube-pharmacology-pharmacogenomics-made-easy-433675</a>	This course provides an introduction to pharmacogenomics, examining how individual genetic variation influences drug metabolism, therapeutic efficacy, and adverse reactions. Learners will explore the role of genetic profiles in optimizing treatment strategies across various medical conditions. The course features lecture content supported by presentations and video materials, offering insight into current trends, applications, and professional practices in the field of pharmacogenomics.
Pharmacology of Antibacterial Agents	<a href="https://stepik.org/course/123136/promo">https://stepik.org/course/123136/promo</a>	The course introduces key concepts and approaches in pharmacology of antibacterial agents. It consists of 11 modules that cover important aspects such as rational use, pharmacology, pharmacokinetics, indications, contraindications, and side effects associated with both natural and synthetic antibiotic classes. The course includes lectures and self-



		assessment quizzes. The course is structured to advance knowledge and skills relevant to antibiotic therapy.
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### Field of science 3. Medicine, General and Internal

Online courses in English	Link	Course description
Diabetes Mellitus and Ischemic Heart Disease – important issue in modern medicine	<a href="https://sechenov.online/course/diabetes-mellitus-and-ischemic-heart-disease-important-issue-in-modern-medicine">https://sechenov.online/course/diabetes-mellitus-and-ischemic-heart-disease-important-issue-in-modern-medicine</a>	The course focuses on a significant topic in modern medicine: the connection between ischemic heart disease and diabetes mellitus. The course includes lecture materials accompanied by presentations and video recordings. The course is designed to develop students' understanding of diagnosis, evaluation of risk for complications, and treatment choices for diabetes mellitus and ischemic heart disease.
Normal electrocardiograms (ECG)	<a href="https://sechenov.online/course/normal-ecg">https://sechenov.online/course/normal-ecg</a>	This course provides a comprehensive introduction to the interpretation of fundamental electrocardiographic (ECG) rhythms. It examines the underlying pathophysiology, etiological factors, clinical manifestations, and diagnostic criteria associated with key ECG patterns. Instruction is delivered through lectures, supported by presentations and video materials. Upon completion of the course, students will be able to accurately interpret normal ECG tracings, as well as identify characteristic changes associated with myocardial infarction, atrial fibrillation, and atrioventricular conduction disorders.
Internal Medicine	<a href="https://www.classcentral.com/course/xuetangx-internal-medicine-369519">https://www.classcentral.com/course/xuetangx-internal-medicine-369519</a>	The course offers a foundational introduction to internal medicine, with each module dedicated to a specific aspect of the discipline. Instruction is delivered through a combination of lectures and self-assessment quizzes, enabling students to consolidate their knowledge progressively. The course supports the development of practical competencies in the diagnosis and treatment of internal diseases, in accordance with established principles of general medical practice.

### Field of science 4. Surgery

Online courses in English	Link	Course description
Abdominal and Genitourinary Emergencies	<a href="https://www.lecturio.com/medical-courses/abdominal-and-genitourinary-emergencies.course#/">https://www.lecturio.com/medical-courses/abdominal-and-genitourinary-emergencies.course#/</a>	The course introduces key concepts and approaches in common causes of abdominal trauma, such as penetrating injuries, appendicitis, pancreatitis, diverticulitis, visceral perforation, biliary diseases, and primary peritonitis. The course includes lectures and self-assessment quizzes. The course focuses on the development of core competencies in abdominal and genitourinary emergencies.

Basic of Surgery	<a href="https://sechenov.online/course/basic-of-surgery">https://sechenov.online/course/basic-of-surgery</a>	The course provides an introduction to general surgery. It consists of three modules. The first module covers the surgical anatomy of the abdomen, the second module focuses on common conditions in general surgery, and the third module deals with a specific type of surgical pathology - obstructive jaundice. The course includes lecture materials accompanied by presentations and video recordings. The course promotes a deeper understanding of human anatomy from the perspective of a surgeon and develops clinical reasoning skills.
Basic Symptomatology of Pancreatic Diseases	<a href="https://sechenov.online/course/pancreatic-diseases">https://sechenov.online/course/pancreatic-diseases</a>	The course covers the fundamental principles of anatomy, physiology, and the complex regulation of pancreatic exocrine secretions. It examines current understandings of the causes, progression, and classification of both acute and chronic pancreatitis. The course includes lecture materials accompanied by presentations and video recordings. The course facilitates the acquisition of experience in clinical manifestations, diagnostic methods, and treatment options available for pancreatic diseases.

#### Field of science 5. Dentistry, Oral Surgery and Medicine

Online courses in English	Link	Course description
Introduction to Dental Materials Science	<a href="https://stepik.org/course/54265/promo?search=7222090764">https://stepik.org/course/54265/promo?search=7222090764</a>	The course offers an in-depth examination of the properties and standard quality characteristics of laboratory dental materials used in various fields of dentistry, including alginate hydrocolloid and elastomeric impression materials, gypsum products, and dental ceramics. The course includes lectures and self-assessment quizzes. The course enables students to apply acquired knowledge to real-world scenarios in dentistry.
Introduction to Dental Medicine	<a href="https://www.classcentral.com/course/dentmedpenn-2902">https://www.classcentral.com/course/dentmedpenn-2902</a>	This course provides an introduction to dental medicine, covering the anatomy, pathology, and treatment of the mouth, jaw, and teeth. The course is structured to progress from fundamental concepts to advanced topics, including current research developments and emerging technologies in the field. The course includes lecture materials accompanied by presentations and video recordings. The course is structured to advance knowledge and skills relevant to dentistry.
Oral Health Care	<a href="https://alison.com/course/oral-health-care">https://alison.com/course/oral-health-care</a>	The course explores the anatomy of the mouth, identifies common oral health issues, and explains the preventive dental procedures used to address them. The course includes lecture materials accompanied by presentations and video recordings. The course facilitates the acquisition of experience in



		oral hygiene.
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**Field of science 6. Infectious Diseases**

Online courses in English	Link	Course description
Epidemiology: The Basic Science of Public Health	<a href="https://www.classcentral.com/course/epidemiology-733">https://www.classcentral.com/course/epidemiology-733</a>	The course introduces methodological tools essential for epidemiology and how they can be applied to real-world public health challenges. It focuses on various issues, including cardiovascular and infectious diseases, both locally and globally. The course includes lecture materials accompanied by presentations and video recordings. The course focuses on the development of core competencies in epidemiology.
Immunology	<a href="https://sechenov.online/course/immunology">https://sechenov.online/course/immunology</a>	The course explores the main features of the infectious process and diseases, different types and forms of infections, pathogenic factors of microorganisms, current methods of protecting the body against pathogens, and immunobiological drugs. The course includes lecture materials accompanied by presentations and video recordings. The course supports the development of research-based approaches to preventive measures and specific therapies for infectious diseases.
Special Microbiology	<a href="https://sechenov.online/course/special-microbiology">https://sechenov.online/course/special-microbiology</a>	The course introduces key concepts and approaches in bacteriology, including the basic biological properties of bacteria, pathogenicity factors, and the antigenic structure of pathogens. It also examines the epidemiology of bacterial infections, modern laboratory diagnostic methods, and immunobiological drugs used for prevention and treatment. The course materials include lectures, presentations, and video recordings. Upon completion, students will be able to apply the acquired knowledge to address practical problems in the field.
Virology	<a href="https://sechenov.online/course/virology">https://sechenov.online/course/virology</a>	The course covers viruses that cause human disease, the epidemiology of viral infections, laboratory diagnostic techniques, and methods of prevention. The course includes lecture materials accompanied by presentations and video recordings. The course promotes a deeper understanding of the complexities involved in virology.

**Field of science 7. Public Health**

Online courses in English	Link	Course description
Data and Health Indicators in Public Health	<a href="https://www.classcentral.com/course/data-public-health-">https://www.classcentral.com/course/data-public-health-</a>	The course is designed to develop students' understanding of the role of epidemiology in public health and the problem-solving methodology used

Practice	8921	within it. The course emphasizes the importance of using reliable data, explaining how it is gathered using traditional public health techniques and systems and how this data is used to calculate the impact of disease on a population. The course includes lecture materials accompanied by presentations and video recordings. The course equips students with theoretical and practical tools for public health.
Elements of Biostatistics for Medical Students	<a href="https://sechenov.online/course/elements-of-biostatistics-for-medical-students">https://sechenov.online/course/elements-of-biostatistics-for-medical-students</a>	This course introduces key concepts for biostatistics, including population, sample size, mean, variance, and standard deviation. The course is designed to develop students' understanding of graphical representations of data distribution and the application of the least squares method in time series analysis. The course includes lecture materials accompanied by presentations and video recordings. The course teaches how to use discipline-specific methods and tools to investigate complex issues.
Introduction to Research Methodology	<a href="https://sechenov.online/course/research-methodology">https://sechenov.online/course/research-methodology</a>	The course offers an introduction to research methodology, covering various research designs and stages of the research process. It includes lectures, presentations, and video recordings. The course enables students to understand methods of scientific inquiry and data analysis in research. Participants learn how to search for, retrieve, interpret, and critically evaluate the results of statistical analyses.
Population health: Fundamentals of Population Health Management	<a href="https://www.classcentral.com/course/fundamentals-population-health-management-13057">https://www.classcentral.com/course/fundamentals-population-health-management-13057</a>	This course aims to develop students' analytical skills in the field of public health administration, enabling them to understand contemporary health challenges and formulate effective solutions from a public health management perspective. Instructional materials include lectures, presentations, and video recordings. The course provides foundational knowledge of core theories and key concepts in the discipline.
Public Health as a key resource for the wellbeing of society	<a href="https://sechenov.online/course/public-health">https://sechenov.online/course/public-health</a>	The course introduces key concepts and approaches in public health. It covers risk factors, methods to prevent non-communicable diseases, and ways to promote health. The course includes lecture materials accompanied by presentations and video recordings. The course equips students with both theoretical and practical skills to effectively analyze and interpret health data in the field of preventive medicine.