

National Pirogov Memorial Medical University, Vinnytsya

APPROVE

Higher Educational Institution

Vice-Rector for Scientific and

Academic Work and International Links

 Inna ANDRUSHKO

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SYLLABUS

of discipline "Surgery"

(as a part of academic discipline **SURGERY, INCLUDING PEDIATRIC SURGERY,
NEUROSURGERY, VASCULAR SURGERY**)

Specialty	222 Medicine
Educational level	the second (master's) level
Educational programme	Medicine, 2022
Academic year	2024-2025
Department	Surgery #1 with a course in urology
Lecturer	Shaprinskyi VO, MD, Prof .; Kryvetskyi VF, Ph.D., Assoc.
Contact information	surgery1@vnmue.edu.ua; Pirogova str., 46, Vinnytsia
Syllabus compiler	Kryvetskyi VF, Ph.D., Assoc.

1. Status and structure of the discipline

Discipline status	Compulsory
Discipline code in EPP/ discipline place in EPP	CC 32 //discipline of professional training
Course / semester	5 th year (IX or X semester)
The amount of discipline (the total number of hours / number of credits ECTS)	75 hours / 2.5 credits ECTS
Number of content modules	1
The structure of the discipline	Lectures - 8 hours Practical classes – 36 hours Independent work – 31 hours
Language of study	English
Form of study	Full - time (<i>or remote by order</i>)

2. Description of the discipline

Short annotation of the course, relevance. According to the working curriculum of National Pirogov Memorial Medical University, Vinnytsya for the specialty 222 “Medicine” a fragment of the discipline “Surgery, including Pediatric Surgery, Neurosurgery, Vascular Surgery”, which is taught to applicants for EPP “Medicine” by the Department of Surgery#1 during the 5th year of study (Content module 3 “Thoracic, endocrine surgery”), designed for 2.5 credits that students learn during the ninth or tenth semesters.

The subject of this course is surgical diseases of the chest and some issues of surgical endocrinology. The student will acquire knowledge of etiology, pathogenesis, morphology, classifications, clinical manifestations of surgical diseases and the complications caused by them; laboratory, instrumental, radiological methods of diagnosis and interpretation of their results; diagnostic and differential-diagnostic criteria of nosologies of surgical profile; methods of conservative and invasive treatment, including conditions and indications for their use and the provision of emergency care; ways to prevent these processes and rehabilitate patients.

Prerequisites Normal anatomy, histology, cytology and embryology (structure of internal organs at different levels, their syntopy, skeletotopy, blood supply, lymph flow and innervation; formation of organs and systems in ontogenesis); physiology (functions of organs and systems, conditions of their implementation and interdependence); pathological anatomy, pathological physiology (morphological and functional disorders in organs and systems in different types of pathological processes and defects, their relationship, course, manifestations, methods of termination); microbiology, immunology (the main pathogens of surgical diseases, their properties, factors of aggression, methods of identification; specific and nonspecific factors of local and systemic protection); propedeutics of internal medicine (methods of physical examination and additional diagnostics of the patient, typical changes in surgical diseases), radiology (types, principles of application of methods of radiological diagnostics, semiotics of surgical diseases and their complications), internal medicine (etiology, pathogenesis, clinic, medical and physiotherapist management in diseases of internal organs), pharmacology, clinical pharmacology (groups of drugs used in surgery and rules of their use), general surgery with topographic anatomy and operative surgery (organization of surgical care, deontology and care of patients with surgical profile; wound science, hemostasis; basics of transfusiology; surgical infection, asepsis and antiseptics; syntopy, skeletotopy of internal organs, surgical accesses and main types of surgical interventions). In addition, the mastering of the subject is closely interrelated with the study

of all disciplines of surgical profile (anesthesiology and intensive care, pediatric surgery, neurosurgery, otorhinolaryngology, traumatology, orthopedics, etc.)

The purpose of the course and its significance for professional activities. (The aim of the course is to train a highly experienced and erudite doctor who has mastered the basic knowledge, skills and abilities in the diagnosis and treatment of surgical pathology within the requirements of OPP “Medicine”, in particular - thoracic and endocrinological profile)/

Postrequisites. Studying the course is necessary to compile a holistic picture of human body diseases, in particular, diseases of the thorax (lungs and pleura, thymus, esophagus, diaphragm), thyroid and mammary glands, which are treated surgically. Complications and emergencies that occur in diseases and injuries of the chest require timely diagnosis and active action by any doctor, regardless of specialization. The vast majority of topics are at the intersection of specialties; the course content is not designed for thoracic surgeon. All together should motivate applicants to study the discipline diligently, regardless of professional preferences for the future.

3. Learning outcomes.

Upon completion of the study, students must:

Know:

- etiology, pathogenesis and classification of surgical diseases of the thoracic cavity, endocrine system;
- clinical picture, diagnostic methods and results of laboratory and instrumental research in surgical patients;
- differential diagnosis of surgical diseases;
- modern methods and algorithms of conservative and operative treatment of surgical diseases within the curriculum;
- postoperative supervision and rehabilitation of surgical diseases;
- risk factors for complications in surgical patients; emergency medical care for urgent surgical diseases and conditions.

Be able:

- interpret the etiology, pathogenesis and classification of surgical diseases;
- recognize the clinical picture of the main thoracic cavity, endocrine system surgical diseases;
- identify diagnostic methods and interpret the results of laboratory and instrumental research;
- to carry out differential diagnosis of thoracic cavity, endocrine system diseases;
- to compile algorithms and schemes of their conservative and surgical treatment;
- prescribe postoperative treatment and rehabilitation of patients with surgical pathology;
- identify risk factors for complications in surgical patients;
- provide medical care for urgent conditions of surgical profile in accordance with the requirements of the EPP “Medicine”;
- perform medical manipulations of the surgical profile in accordance with the requirements of the EPP “Medicine”;
- demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination in surgery;

4. Content and logistic of the discipline

The course includes 8 topics that make up one content module.

Module	9 th or 10 th semester	Lectures
Thoracic, endocrine surgery	75 hours / 2.5 credits	1. The surgical endocrinology 2. The surgery of the esophagus and mediastinum 3. The surgery of thoracic trauma

		<p>4. The surgery of the diaphragm</p> <p>Practical classes</p> <ol style="list-style-type: none"> 1. Abscess and gangrene of lung. Bronchiectasis. Classification, clinic, diagnostics, differential diagnostics. Conservative and operative treatment. 2. Acute and chronic pleural empyema, pyopneumothorax. Classification, clinic, diagnostics, treatment. Treatment of chronic pleural empyema. Types of interventions, postoperative management 3. Spontaneous pneumothorax. Surgical complications of COVID-19 infection 4. Chest injuries. Classification. Complications. Intensive care and surgical treatment. 5. Diseases of mediastinum. Tumors and cysts of the mediastinum. Classification. Clinic. Methods of diagnostics. Surgical tactic. Mediastinitis. Classification. Clinic, diagnostics. Treatment. 6. Esophageal diseases and injuries. Definition, classification, pathogeny, clinic, diagnostics and treatment of diseases. 7. Euthyroid and toxic goiter. Classification. Special methods of research. Diagnostics. Differential diagnostics. Preoperative management. Surgical treatment 8. Diseases of the breast (dishormonal, benign tumors) Mastitis. 9. Hernia of diaphragm. Classification. Clinic, diagnostics. Surgical tactic. Relaxation of the diaphragm: classification, clinic, diagnostics, indications to operative treatment. <p>Final control</p> <p>Topics for self- study</p> <ol style="list-style-type: none"> 1. Lung cysts and benign tumours 2. Surgical aspects of COPD.
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The topics of the lecture course reveal the problematic issues of the relevant sections of the discipline. Practical classes provide a theoretical justification of the main issues of the topic and the acquisition of the following practical skills:

Practical skills

- interview the patient
- examine a patient
- palpation of the chest,
- have a thyroid palpation
- have a mammary gland palpation
- perform lung percussion
- determine the width of the mediastinal bundle
- determine boundaries of the heart with percussion
- auscultation of the lungs and heart
- determine the characteristics of the pulse
- to determine indicators of arterial and central venous pressure
- count the ribs on the radiograph
- identify radiographic signs of lung abscess, pleural empyema
- to reveal radiological signs of fractures of ribs, pneumo- and hemothorax, tamponade of the pericardium, pneumomediastinum
- identify radiological signs of neoplasm of the mediastinum, mediastinitis
- identify radiographic signs of diverticulum, achalasia, esophageal stenosis

- identify radiographic signs of diaphragmatic hernias
- dressing a clean and purulent wound
- care for a pleural drainage
- remove drainage
- remove sutures from the wound
- block the site of the fractured rib (order of execution)
- apply postural airway drainage
- prepare a line for iv infusion
- to conduct a pleural puncture (to imitate)
- to conduct a puncture of a pericardium (to imitate)
- to collect a set of tools for drainage of a pleural cavity
- install the Bulau valve drainage system
- insert the probe into the esophagus (order of execution)
- assist in an operation

Professional skills

- Collection of anamnesis in a patient with surgical pathology of the chest
- To conduct a physical examination in a patient with surgical pathology of the chest and to interpret its results
- To carry out physical examination at the patient with pleural complications and to interpret its results
- Interpret radiographic and CT picture of abscess, lung gangrene, pyothorax, pyopneumothorax
- Detect the localization of pulmonary formation by X-ray
- To interpret the radiological picture of esophageal diseases - achalasia, diverticula, strictures
- To interpret radiographic and CT image of mediastinitis, mediastinum
- To interpret radiographic picture of hernia, diaphragm relaxation.
- To interpret radiological picture of pneumothorax, hemothorax, lung contusion
- To interpret radiographic picture of hemomediastinum, pneumomediastinum, pericardial tamponade
- Perform differential diagnosis of lung abscess with tuberculosis, suppurative cyst
- Perform differential diagnosis of chronic lung abscess with tumour
- Perform differential diagnosis of pleural empyema and atelectasis
- Perform differential diagnosis of achalasia and esophageal cancer
- Perform differential diagnosis of axial and paraesophageal hiatus hernia
- To formulate a diagnosis of a patient with surgical pathology of the chest
- Develop a treatment program for a patient with acute lung abscess
- Develop a treatment program for a patient with pleural empyema
- Make a medical program for a patient with chronic pulmonary and pleural suppuration
- Choose therapeutic tactics for rib fractures
- Choose therapeutic tactics for pneumothorax
- Choose therapeutic tactics for hemothorax
- Choose therapeutic tactics for pulmonary bleeding
- To carry out clinical and radiological diagnostics of a wound of heart
- Develop an algorithm for heart injury
- Develop a treatment program for subcutaneous and mediastinal emphysema
- Choose therapeutic tactics for esophageal stenosis
- Choose therapeutic tactics for cardiac achalasia
- Choose therapeutic tactics for hiatus hernia
- Provide first aid at tension pneumothorax
- Provide first aid at open pneumothorax
- Provide first aid at chest flotation
- Provide first aid at pericardial tamponade
- Provide first aid at esophageal burns

The student's **independent work** provides preparation for practical classes, study of topics for independent extracurricular work, preparation of presentations. The control of mastering the topics of independent extracurricular work is carried out at the intermediate control classes and the final control of the discipline.

Individual work includes the study of scientific literature, preparation of reviews on the topics provided for presentation at the meetings of the student scientific circle, the implementation of scientific and practical researches, participation in specialized competitions, scientific and practical conferences and organization of students' research works.

Thematic plans of lectures, calendar plans of practical classes, thematic plan of independent work, volume and directions of individual work are published on the website of the department.

The route for obtaining materials: Department surgery1 / for students / Full-time education / Medicine / 5 course / Educational materials / or through the link https://www.vnmu.edu.ua/departament_surgery1#. Access to the materials is carried out through the student's corporate account s000XXX@vnmu.edu.ua.

5. Forms and methods of monitoring academic performance

Current control in practical studies	Methods: oral or written survey, testing, electronic survey, patients cases solving, real patients survey, interpreting and evaluating of diagnostic procedures results, practical skills control
Control of mastering the thematic section of the discipline at intermediate control lessons	N/A
Final control of module : Thoracic, endocrine surgery (grading test)	Methods: oral questioning, patients cases solving (according to the Regulation of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link https://www.vnmu.edu.ua/General information))
Learning success diagnostic tools	Theoretical questions, clinically-oriented situational tasks (cases), practical tasks, practical skills demonstration, tests

6. Assessment criteria

Knowledge assessment is carried out in accordance with the Regulations of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information)

Continuous assessment	On a four point system of traditional assessments: 5 «excellent», 4 «good», 3 «satisfactory», 2 «unsatisfactory»
Midpoint separation assessment	On a four-point system of traditional assessments
Control of practical skills	On a four-point system of traditional assessments
Final control of the discipline	Exam grade: 71-80 points - "excellent" 61-70 points - "good" 50-60 points - "satisfactory" Less than 50 points - "unsatisfactory" / did not pass
Discipline assessments:	Current academic assessment - from 72 to 120 points (conversion of the average traditional assessment of practical class on a 120-point scale): 60% of the grade for the discipline

	Final control - from 50 to 80 points: 40% of the grade for the discipline Individual work - from 6 to 12 points From 122 to 200 points in total.
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Discipline Score Scale: National and ECTS

The sum of grades for all types of educational activities	Score ECTS	Score on a national scale	
		For exam, course project (work), practice	for credit test
180-200	A	excellent	credited
170-179,9	B	good	
160-169,9	C		
141-159,9	D	satisfactory	
122-140,99	E	satisfactory	-
120-140,99	E	-	credited
60-119,99	FX	unsatisfactory with the possibility of reassembly	is not credited with the possibility of reassembling
1-59,99	F	unsatisfactory with a mandatory reexamination of discipline	is not credited with mandatory reexamination of discipline

1. Policy of discipline / course

The student has the right to receive high-quality educational services, access to contemporary scientific and educational information, qualified advisory assistance during the study of discipline and mastering practical skills. The policy of the department during the providing of educational services is a student-centered, based on normative documents of the Ministry of Education and the Ministry of Health of Ukraine, the Statute of the University and the Procedure for the Providing of Educational Services regulated by the main principles of the organization of the educational process in National Pirogov Memorial Medical University, Vinnytsya and the principles of academic integrity (link <https://www.vnmu.edu.ua/General> information).

Adherence to the rules of National Pirogov Memorial Medical University, Vinnytsya, safety techniques in practical classes.

Requirements for preparation for practical classes. The clinical base of the course is the Thoracic Surgery Centre of KNP “Vinnytsia Regional Clinical Hospital n.a. N. Pirogov of the Vinnytsia regional council”. The student must come for a practical lesson in time, be

theoretically prepared according to the topic. The form of clothing at the entrance to the inpatient department of the hospital: changeable shoes, medical gown and hat. Carry a medical mask, gloves, antiseptic. At introduction of quarantine restrictions in the medical institution a strict following of its requirements is obligate. Carrying outerwear, shoes, bulky things is not allowed. During their stay in the surgical hospital, students are required to comply with the requirements of medical and sanitary regimes. Any unauthorized, without the permission of the teacher, touching the hospital equipment, devices and tools is prohibited. During interviews with patients and their relatives, as well as outside the hospital, applicants are required to adhere to ethical and deontological principles, the requirements of current legislation on information retention. It is strictly forbidden to disseminate medical and personal information of patients in any way (including on social networks, oral stories, etc.). During contacts with staff and discussions in the learning process, the principles of tolerance, politeness and mutual respect are professed; incorrect, provocative behaviour is not allowed.

Usage of mobile phones and other electronic devices.

Unlimited mobile phones can only be used for emergency calls, in other cases with the permission of the teacher. The use of devices during the survey and explanations of the material is prohibited

Academic integrity. When studying the discipline, the student must be guided by the Code of Academic Integrity and Corporate Ethics of National Pirogov Memorial Medical University, Vinnytsya (link : <https://www.vnmu.edu.ua/General> information)/ Code of Academic Integrity). In case of violation of the norms of academic integrity during the current and final controls (writing-off, using of devices and other sources of information) student receives a mark of “2” and must work it out to his teacher in the prescribed manner within two weeks after receiving an unsatisfactory assessment). During the final control it is forbidden to use, among other things, own notes, notes, abstracts, etc.

Missed classes. Missed classes are working out in the manner prescribed by Regulations of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information) at the working-time to a group assigned teacher or at time of work out schedule (published on the website of the department <https://www.vnmu.edu.ua/> department surgery1#) to the teacher on duty. To work out missed lesson student should answer the theoretical material and perform the practical skills provided by the topic. Assimilation of the material of missed lectures is checked at the final control)

The procedure for admission to the discipline final control is given in the Regulations of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information). To the final control allowed students who do not have missed practical classes and lectures and received an average traditional grade of at least "3".

Additional points. Individual points in the discipline (from 1 to 12) that student can receive for individual work, the amount of which is published on the website of the department in the educational methodical materials of the discipline, the number of points is determined by the results of Individual Students Work (ISW) according to Regulation of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information). Details of the evaluation criteria are given in the relevant section on the department page at the University website (access from the student's corporate account s000XXX@vnmu.edu.ua).

Conflict resolution. In case of misunderstandings and complaints to the teacher because of the quality of educational services, knowledge assessment and other conflict situations, student should submit his / her claims to the teacher. If the issue is not resolved, the student has the right to apply to the head of the department according to Complaints Consideration Procedure in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information) The next steps in such situations resolving is a student government, dean-office or university administration participation. The department is aware that student-centeredness presupposes responsibility of the applicant for conscious and active acquisition of knowledge, proper implementation of norms and rules provided by the legislation and regulatory documents of VNMU and reserves the right to inform relevant structures about violations by students and, if necessary, to ask a dean-office assistance.

Politics in terms of remote learning. Distance learning regulated by the Regulations of the elements of remote learning in National Pirogov Memorial Medical University, Vinnytsya ([https://www.vnmu.edu.ua/ General](https://www.vnmu.edu.ua/General) information). The main training platforms for studying are Microsoft Team and Google Meets. Practical classes and lectures, exercises and consultations during distance learning is published on the website of the department ([https://www.vnmu.edu.ua/ Department of surgery 1/ to Students](https://www.vnmu.edu.ua/Department%20of%20surgery%201%20to%20Students)).

The order of actions of the teacher and students following the "AIR ALARM" signal is determined by the instructions according to the rector's order No. 92 dated 03/09/2024

Feedback from teachers is via messengers (Viber, Telegram, WhatsApp) or e-mail (at the teacher's choice) during working hours.

Leading teacher of the department: Assoc. Volodymyr Kryvetskyi, tel. (Viber, WhatsApp) +380975316386, kryvetsky.v@gmail.com

2. Educational resources.

Educational and methodological support of the discipline is published on the website of the department (<https://www.vnmu.edu.ua/> department of surgery 1 / for students). Consultations are held according to the schedule.

3. The timetable and distribution of groups with assigned teachers are published on the web page of the department ((<https://www.vnmu.edu.ua/> department of surgery 1 / for students).

4. Questions to the final semester control (grading test) are published on the web page of the department (<https://www.vnmu.edu.ua/> department of surgery 1 / for students).

The syllabus of the discipline "Surgery, including Pediatric Surgery, Neurosurgery, Vascular Surgery", section "Surgery" was discussed and approved at the meeting of the department Surgery №1 with a course in urology (record № 1, dated "29" 08 2024)

Responsible for the course

Assoc. Volodymyr KRYVETSKYI

Head of the department

Prof. of HEI Volodymyr SHAPRYNSKYI