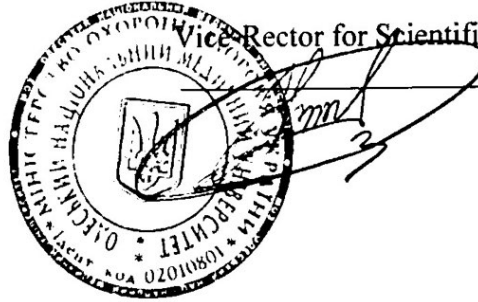


**MINISTRY OF HEALTH OF UKRAINE  
ODESSA NATIONAL MEDICAL UNIVERSITY**  
Department of Surgery



**APPROVED BY**  
Vice Rector for Scientific and Pedagogical Work  
Eduard Buryachkivskyi

"01" September 2023

**SYLLABUS FOR THE ELECTIVE ACADEMIC DISCIPLINE  
"THORACOSCOPY FOR CHEST TRAUMA "**

**Level of Higher Education:** Second (Master's)

**Field of Knowledge:** 22 "Healthcare"

**Specialty:** 222 "Medicine"

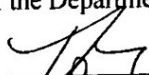
**Educational-Professional Program:** "Medicine"

The working program is based on the educational-professional program "Medicine" for the preparation of specialists at the second (master's) level of higher education in the specialty 222 "Medicine" of the field of knowledge 22 "Healthcare", adopted by the Scientific Council of ONMedU (protocol № 8 from June 29, 2023).

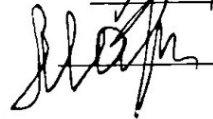
**Developers:**

D.Med.Sc., Professor Grubnik V.V., Associate Professor Polyak S.D., Associate Professor Parfentiev R.S., Associate Professor Muravyov P.T., Associate Professor Nikitenko R.P., Vorotintseva K.O., Grubnyk V.V., Koichev Y.A., Degtyarenko S.P., Nadeim Kanjo, Slipev V.V.

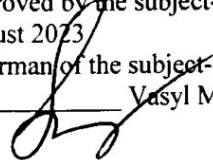
The working program was approved at the meeting of the Department of Surgery  
Protocol № 1 from "27" August 2023  
Head of the Department

  
Volodymyr GRUBNIK


Agreed with the OPP guarantor

  
Valeriya MARICHEREDA

Approved by the subject-cycle methodical commission on surgical disciplines Protocol № 1 from "28" August 2023  
Chairman of the subject-cycle methodical commission on surgical disciplines

  
Vasyl MISHCHENKO

Reviewed and approved at the meeting of the Department of Surgery Protocol № 1 from 04 September 2023  
Head of the Department

  
Volodymyr GRUBNIK

## 1. Description of the Academic Discipline:

Indicators name	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline
Total number:	Field of Knowledge 22 "Healthcare"  Specialty 222 "Medicine"  Level of Higher Education Second (Master's)	<i>Full-time study</i>
Credits: 3		<i>Elective discipline</i>
Hours: 90		<i>Year of study: 6</i>
Content Modules: 1		<i>Semesters XI</i>
		<i>Lectures (0 hrs.)</i>
		<i>Practical (30 hrs.)</i>
		<i>Independent work (60 hrs.)</i>
		<i>Form of final control - credit</i>

## 2. Purpose and objectives of the academic discipline

**Purpose:** To acquire theoretical and practical knowledge about the possibilities of using thoracoscopy in the diagnosis and treatment of patients in the work of surgeons (thoracic).

### Objectives:

- To form in higher education seekers a correct understanding of the moral-deontological principles of a medical professional in surgical specialties.
- Determination of tactics for examining and managing patients with chest trauma.
- Diagnose emergency conditions in patients with chest trauma.
- Use thoracoscopy as a primary or auxiliary means of diagnostics and treatment of patients.

The process of studying the discipline is aimed at forming elements of the following competencies

### General (GC):

GC3. The ability to apply knowledge in practical situations.

GC4. Knowledge and understanding of the subject area and understanding of professional activity.

GC6. The ability to make justified decisions.

GC7. The ability to work in a team.

GC8. The ability to interpersonal interaction.

GC12. Determination and perseverance regarding set tasks and obligations.

### Special (SC):

SC1. The ability to collect medical information about a patient and analyze clinical data.

SC2. The ability to determine the necessary list of laboratory and instrumental research and assess their results.

SC3. The ability to establish a preliminary and clinical diagnosis of a disease.

SC4. The ability to determine the necessary regime of work and rest in the treatment and prevention of diseases.

SC5. The ability to determine the nature of nutrition in the treatment and prevention of diseases.

SC6. The ability to determine the principles and nature of treatment and prevention of diseases.

SC7. The ability to diagnose emergency conditions.

SC8. The ability to determine tactics and provide emergency medical care.

SC10. The ability to perform medical manipulations.

SC11. The ability to solve medical problems in new or unfamiliar environments with incomplete or limited information, taking into account social and ethical appropriateness.

SC16. The ability to maintain medical documentation, including electronic forms.

### **Learning Outcomes (LO):**

LO3. Specialized conceptual knowledge that includes scientific achievements in the field of healthcare and is the basis for conducting research, critical reflection of problems in the field of medicine and related interdisciplinary problems.

LO4. Identify and identify leading clinical symptoms and syndromes; using standard techniques, based on previous patient history data, patient examination data, knowledge about a person, their organs, and systems, establish a preliminary clinical diagnosis of the disease.

LO5. Collect complaints, life, and disease history, assess the psychomotor and physical development of the patient, the condition of the organs and systems of the body, based on the results of laboratory and instrumental research, assess information regarding the diagnosis.

LO6. Establish a final clinical diagnosis by making a justified decision and analyzing obtained subjective and objective clinical data, additional examination, conducting differential diagnosis, adhering to relevant ethical and legal norms, under the control of a supervising doctor in a healthcare institution.

LO7. Prescribe and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) for patients with diseases of organs and systems of the body for differential diagnosis of diseases.

LO8. Determine the main clinical syndrome or symptom that determines the severity of the condition of the victim/sufferer by making a justified decision on the condition of a person under any circumstances (in a healthcare institution, outside it), including in emergency situations and combat operations, in field conditions, in conditions of lack of information and limited time.

LO9. Determine the nature and principles of treatment of patients (conservative, surgical) with diseases, taking into account the age of the patient, in a healthcare institution, outside it and at the stages of medical evacuation, including in field conditions, based on a preliminary clinical diagnosis, adhering to relevant ethical and legal norms, by making a justified decision according to existing algorithms and standard schemes, if necessary expanding the standard scheme be able to justify personalized recommendations under the control of a supervising doctor in a medical institution.

LO10. Determine the necessary regime of work, rest, and nutrition based on the final clinical diagnosis, adhering to relevant ethical and legal norms, by making a justified decision according to existing algorithms and standard schemes.

LO17. Perform medical manipulations in a medical institution, at home or in production based on a preliminary clinical diagnosis and/or indicators of the patient's condition by making a justified decision, adhering to relevant ethical and legal norms.

LO18. Determine the state of functioning and limitations of a person's life activity and the duration of disability with the preparation of relevant documents, in a healthcare institution based on data about the disease and its course, the specifics of a person's professional activity, etc. Keep medical documentation on the patient and the population contingent based on regulatory documents.

LO19. Plan and implement a system of anti-epidemic and preventive measures regarding the occurrence and spread of diseases among the population.

L024. Organize the necessary level of individual safety (own and of persons cared for) in case of typical dangerous situations in the individual field of activity.

**As a result of studying the academic discipline, the higher education seeker should:**

**know:**

1. Anatomy of the organs of the thoracic cavity.
2. List of examinations and peculiarities of managing patients with chest trauma.
3. Diagnose emergency conditions in patients with chest trauma.
4. Use thoracoscopy as a primary or auxiliary means of diagnosis and treatment of patients.

**be able to:**

1. Interpret laboratory research data.
2. Interpret radiography data.
3. Interpret computed tomography data.
4. Demonstrate the examination of patients with chest trauma: inspection, palpation, percussion, auscultation.
5. Demonstrate skills in primary surgical wound treatment.
6. Interpret preclinical research data on the use of thoracoscopy in patients with chest trauma.

### 3. Content of the academic discipline

**Topic 1:** History of the development of thoracoscopy in the world and Ukraine. Techniques of performing and ensuring thoracoscopy.

**Topic 2:** Use of thoracoscopy in isolated chest trauma. Use of thoracoscopy in combined chest trauma.

**Topic 3:** Use of thoracoscopy as a primary means of diagnosis and treatment of chest trauma. Thoracoscopy as a means of diagnosis and establishing indications for thoracotomy.

**Topic 4:** Possibilities of thoracoscopy in stopping hemorrhage. Possibilities of thoracoscopy in the management of pneumothorax.

**Topic 5:** Possibilities of thoracoscopy as a primary means of lung resection. Possibilities of thoracoscopy in the removal of foreign bodies from the chest cavity. Use of thoracoscopy in heart traumas and cardiac tamponades.

### 4. Structure of the Academic Discipline

	Topic	Practical classes	IW	Total
1.	History of the development of thoracoscopy in the world and Ukraine. Techniques of performing and ensuring thoracoscopy.	6	12	18
2.	Use of thoracoscopy in isolated chest trauma. Use of thoracoscopy in combined chest trauma.	6	12	18
3.	Use of thoracoscopy as a primary means of diagnosis and treatment of chest trauma. Thoracoscopy as a means of diagnosis and establishing indications for thoracotomy.	6	12	18
4.	Possibilities of thoracoscopy in stopping hemorrhage. Possibilities of thoracoscopy in the management of pneumothorax.	6	12	18
5.	Possibilities of thoracoscopy as a primary means of lung resection. Possibilities of thoracoscopy in the removal of foreign bodies	6	12	18

	from the chest cavity. Use of thoracoscopy in heart traumas and cardiac tamponades.			
<b>Total</b>		30	60	90
<b>Total hours</b>		90		

### 5. Topics of lectures / seminars / practical / laboratory classes

#### 1. 5.1. Topics of lectures

2. Not provided

#### 3. 5.2. Topics of practical classes

№ з/п	Topic	Number of hours
1	History of the development of thoracoscopy worldwide and in Ukraine. Techniques of performing and ensuring thoracoscopy.	6
2	Use of thoracoscopy in isolated chest trauma. Use of thoracoscopy in combined chest trauma.	6
3	Use of thoracoscopy as a primary means of diagnosis and treatment of chest trauma. Thoracoscopy as a means of diagnosis and establishing indications for thoracotomy.	6
4	Possibilities of thoracoscopy in stopping bleeding. Possibilities of thoracoscopy in the management of pneumothorax.	6
5	Possibilities of thoracoscopy as a primary means for lung resection. Possibilities of thoracoscopy in the removal of foreign bodies from the chest cavity. Use of thoracoscopy in heart traumas and cardiac tamponades.	6
<b>Всього</b>		<b>30</b>

### 6. Independent work

№ п/п	Types of Independent Work	Number of hours
1	History of the development of thoracoscopy worldwide and in Ukraine. Techniques of performing and ensuring thoracoscopy	12
2	Use of thoracoscopy in isolated chest trauma. Use of thoracoscopy in combined chest trauma.	12
3	Use of thoracoscopy as a primary means of diagnosis and treatment of chest trauma. Thoracoscopy as a means of diagnosis and establishing indications for thoracotomy.	12
4	Possibilities of thoracoscopy in stopping bleeding. Possibilities of thoracoscopy in the management of pneumothorax.	12

5	Possibilities of thoracoscopy as a primary means for lung resection. Possibilities of thoracoscopy in the removal of foreign bodies from the chest cavity. Use of thoracoscopy in heart traumas and cardiac tamponades.	12
	<b>Total hours</b>	<b>60</b>

## 7. Teaching Methods

**Practical classes:** oral and written questioning, solving test tasks, solving typical and atypical situational problems, under the teacher's supervision, training of relevant practical skills and professional abilities on simulation models.

**Independent work:** independent work with recommended primary and additional literature, electronic information resources, independent mastering of communication algorithms with surgical patients.

## 8. Forms of control and methods of assessment (including criteria for assessing learning outcomes)

**Current control:** oral questioning, testing, assessment of practical skills performance, problem-solving.

**Final control:** credit..

**Assessment of current academic activity in practical classes:**

1. Assessment of theoretical knowledge on the topic of the class:
  - methods: questioning, solving a situational problem
  - maximum score – 5, minimum score – 3, unsatisfactory score – 2.
2. Assessment of practical skills on the topic of the class:
  - methods: assessment of the correctness of practical skills performance
  - maximum score – 5, minimum score – 3, unsatisfactory score – 2.

The score for one practical class is the arithmetic mean of all components and can only have an integer value (5, 4, 3, 2), rounded according to the method of statistics.

### Criteria for current assessment in practical classes

Grade	Criteria for assessment
«5»	The learner actively participates in the discussion of the most complex issues of the topic, gives at least 90% correct answers to standardized test tasks, answers written tasks without errors, performs practical work, and completes the protocol.
«4»	The learner participates in the discussion of the most complex issues of the topic, gives at least 75% correct answers to standardized test tasks, makes minor errors in responses to written tasks, performs practical work, and completes the protocol.
«3»	The learner participates in the discussion of the most complex issues of the topic, gives at least 60% correct answers to standardized test tasks, makes significant errors in responses to written tasks, performs practical work, and completes the protocol.
«2»	The learner does not participate in the discussion of complex issues of the topic, gives less than 60% correct answers to standardized test tasks, makes gross errors in responses to written tasks or does not provide answers to them, does not perform practical work, and does not complete the protocol.

A credit is awarded to a learner who has completed all tasks of the course's work program, actively participated in practical classes, completed and defended an individual task, and has an average current score of at least 3.0 with no academic debts.

The credit is carried out: at the last class before the start of the examination session - with a ribbon system of training, at the last class - with a cyclical system of training. The score for the credit is the arithmetic mean of all components on the traditional four-point scale and has a value rounded according to the method of statistics to two decimal places.

#### 9. Distribution of points earned by higher education seekers

The average score obtained for the academic discipline by learners who have successfully mastered the work program of the academic discipline is converted from the traditional four-point scale to points on a 200-point scale, as shown in the table:

**Conversion table of traditional grades to a multi-point scale**

<b>Traditional four-point scale</b>	<b>Multi-point 200-point Scale</b>
Excellent («5»)	185 – 200
Good («4»)	151 – 184
Satisfactory («3»)	120 – 150
Unsatisfactory («2»)	Below 120

The multi-point scale (200-point scale) reflects the actual success of each learner in mastering the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point scale is performed by the University's Information and Technical Department.

According to the points obtained on the 200-point scale, the achievements of the learners are assessed on the ECTS rating scale. Further ranking on the ECTS scale allows assessing the achievements of learners in an educational component who are studying in the same course of the same specialty, according to their scores.

The ECTS scale is a relative-comparative rating, which establishes the learner's belonging to the best or worst group among the reference group of peers (faculty, specialty). The grade "A" on the ECTS scale cannot be equivalent to the grade "excellent", and the grade "B" – to the grade "good", etc. When converting from a multi-point scale, the boundaries of the grades "A", "B", "C", "D", "E" on the ECTS scale do not coincide with the boundaries of the grades "5", "4", "3" on the traditional scale. Learners who received grades "FX" and "F" ("2") are not included in the ranking list. The grade "FX" is given to learners who have scored the minimum number of points for current academic activity but have not passed the final control. The grade "F" is given to learners who attended all classes in the discipline but did not score an average grade (3.00) for current academic activity and were not allowed to take the final control. Learners studying in the same course (of the same specialty), based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

**Conversion of traditional discipline grades and total points on the ECTS scale**

<b>ECTS Scale Grade</b>	<b>Statistical indicator</b>
A	Top 10% of learners
B	Next 25% of learners
C	Next 30% of learners
D	Next 25% of learners
E	Next 10% of learners



## **10. Methodological Support:**

- Working program of the academic discipline
- Syllabus of the academic discipline
- Multimedia presentations
- Situational tasks
- Methodical developments of practical classes
- Methodical recommendations for independent work of learners

## **11. Questions for Final Control**

1. History of the development of thoracoscopy worldwide and in Ukraine.
2. Basics of thoracoscopy: What are the main anatomical structures to consider during thoracoscopy for chest trauma?
3. Indications and contraindications for performing thoracoscopy in patients with chest trauma.
4. Techniques of performing and ensuring thoracoscopy.
5. Use of thoracoscopy in isolated chest trauma.
6. Use of thoracoscopy in combined chest trauma.
7. Use of thoracoscopy as a primary means of diagnosis and treatment of chest trauma.
8. Thoracoscopy as a means of diagnosis and establishing indications for thoracotomy.
9. Possibilities of thoracoscopy in stopping hemorrhage.
10. Possibilities of thoracoscopy in the management of pneumothorax.
11. Possibilities of thoracoscopy as a primary means for lung resection.
12. Use of thoracoscopy in heart traumas and cardiac tamponades.
13. Characteristics and frequency of isolated and combined chest trauma during wartime and peacetime.
14. Medication treatment: What medication is recommended before and after thoracoscopy for chest trauma?
15. Postoperative care: What are the peculiarities of postoperative care for patients after thoracoscopy for chest trauma?
16. Additional examination methods: CT, MRI, and other visualization methods in the planning and conducting of thoracoscopy?
17. Modern trends in thoracoscopy: What are the modern innovative approaches and technologies used in thoracoscopy for the treatment of chest trauma?

## **12. Recommended Literature**

### **Primary:**

1. Endoscopic surgery: educational guide M. Zaporozhan, V.V., Grubnik V.V., Grubnik Yu.V., et al.; edited by V.M. Zaporozhan, V.V. Grubnik VSV "Medicine", 2019 - Kyiv: - p.87
2. Principles and Practice of surgery - Toronto 2018 7th edition O. James Garden C. 420 – 428.
3. Clinical surgery – M. Henry, J.Thompson 3th edition 2018. C. 233 – 239.

### **Additional:**

1. Abolhoda A., Livingston D. H., Donehoo J. S. et al/ Diagnostic and therapeutic video assisted thoracic surgery (VATS) following chest trauma // EUR Cardiothorac. Surg. – 1997. – Vol. 12. – P 356 - 360
2. Meyer D.M., Jessen M.E., Weit M. A., Ealy evacuation of traumatic retained hemothoraces using thoracoscopy: a prospective, randomized trial // Ann. Thorac. Surg/ 1997/ - Vol. 64- P. 1396 – 400
3. Ben-Num A., Orlovsky M., Best L.A., Video-assisted thoracoscopic surgery in the treatment of chest trauma^ Long-term benefit // Ann. Thorac. Surg/ 2007/ - Vol. 83- P. 383 – 387

## **13. Information resources:**

1. Website of the Department of Surgery: <https://info.odmu.edu.ua/chair/surgery2>
  2. Ministry of Health of Ukraine: <http://moz.gov.ua/>
-

3. National Scientific Medical Library of Ukraine: <http://www.library.gov.ua/>
  4. Testing Center of the Ministry of Health of Ukraine: <http://testcentr.org.ua/>
  5. English-language web resource for doctors and other healthcare professionals:  
<http://www.medscape.com>
  6. English-language textual database of medical and biological publications: <http://www.pubmed.com>
  7. English-language web resource for doctors and other healthcare professionals:  
<https://emedicine.medscape.com/pulmology>
-