Ministry of Healthcare of Ukraine
Poltava state medical university

Department of surgery № 2

«AGREED»
Guarantor of the academic program
in specialty 222 «Medicine»

_____ I. Skrypnyk

“_____”_____2023 year.

«APPROVED»
Chairman of the Academic Council of the
Faculty № 1

_____ M. Riabushko

Minutes as of _____ 2023 No.__

# SYLLABUS

**Surgery, including pediatric surgery, neurosurgery**
(title of the academic discipline)
**Compulsory discipline**
(compulsory / selective discipline)

| | |
|---|---|
| academic and professional level | the second (master's) level of higher education |
| field of knowledge | 22 «Healthcare» |
| specialty | 222 «Medicine» |
| academic qualification | Master of Medicine |
| professional qualification | Medical Doctor |
| academic and professional program | 222 «Medicine» |
| mode of study | full-time |
| course(s) and semester(s) of study of the discipline | V course, IX semester |

## Module 1. Thoracic, cardiovascular, endocrine surgery

«**RESOLVED»**
at the meeting of the Department of surgery № 2

Head of the Department _____ V. Sheiko

Minutes as of _____ 2023 No.

Poltava – 2023

**INFORMATION ABOUT TEACHERS,**
**WHO TEACH AN ACADEMIC DISCIPLINE**

| | |
|---|---|
| Surname, first name, patronymic of teachers, scientific degree, academic title | Vladimir D. Sheiko, Dr. of medicine, Professor of Surgery.<br>Alexander A. Kryzhanovsky, Ph.D., Associate Professor.<br>Denis V. Kapustyansky, Ph.D, Associate Professor.<br>Sergey P. Kravchenko, Ph.D, Associate Professor.<br>Alexander A. Shkurupiy, Ph.D., Associate Professor.<br>Sergey V. Dolzhkovoy, Ph.D., Associate Professor.<br>Aykanush G. Oganesyan, Ph.D., Associate Professor.<br>Dmitry A. Sytnik, Ph.D., assistant.<br>Alexey U. Cherkun, Ph.D., assistant.<br>Vladimir V. Kasyian, Ph.D., assistant. |
| Profile of teachers | https://surgery-two.pdmu.edu.ua/team |
| Contact phone number | 066-0078598, 093-2963908 |
| E-mail: | surgery2@pdmu.edu.ua |
| Department page on the PSMU website | https://surgery-two.pdmu.edu.ua |

**MAIN CHARACTERISTICS OF THE EDUCATIONAL DISCIPLINE**

**Module 1. Thoracic, cardiovascular, endocrine surgery**

The number of credits / hours **is 4.0 / 120**, of which:
Lectures (hours) - **10**
Practical (hours) - **70**
Independent work (hours) - **40**
Type of control - semester final attestation (SFA).

**Politics of educational discipline.**

During organization of educational process in PSMU teachers and students operate in accordance with:

- Academic and professional programs “Medicine”;
- Principles about organization of educational process in the Poltava State Medical University;
- Principles about academic respectability of students and teachers of the Poltava State Medical University;
- Principles of internal order are for the students of the Poltava State Medical University;
- Principles is about organization and methodology of realization of evaluation of educational activity of students in the Poltava State Medical University;
- Principles is about organization of independent work of students in the Poltava State Medical University;
- Principles about reworking off the skipped employments and unsatisfactory estimations by the students of the Poltava State Medical University;
- Principles about the order of forming of individual educational trajectories of students of Poltava State Medical University;
- Principles about the appeal of results of final control of knowledge of students;
- Principles about rating of students of the Poltava State Medical University;
- Position about material encouragement of students of the Poltava State Medical University.

Details of the above provisions can be found at:
https://www.pdmu.edu.ua/n-process/department-npr/normativni-dokumenti

**Description of the Module 1 “Thoracic, cardiovascular, endocrine surgery” (annotation).**

Thoracic, cardiovascular, endocrine surgery is a field of medicine that studies pathological conditions and diseases that are treated by a surgical (operative) method. The subject of the

discipline is surgical pathology in patients. Mastering the subject will allow you to gain practical skills and develop professional skills in the diagnosis and treatment of surgical diseases.

**Prerequisites and post-prerequisites of the educational discipline (interdisciplinary connections).**

The study of module 1 is based on the knowledge that students received during the development of such fundamental theoretical and clinical disciplines as "Human Anatomy", "Histology, Cytology and Embryology", "Physiology", "Morphology", "Pathophysiology", "Pharmacology", "Clinical Anatomy and Operative Surgery", "Propedeutics of Internal Medicine", "Radiology", "Internal medicine, including clinical pharmacology, clinical immunology and allergology, occupational diseases", "Endocrinology", "Traumatology and Orthopedics", "Neurosurgery", "Anesthesiology and Intensive Care", "Urology", "General surgery", etc. These interactions form the ability to apply knowledge in the process of a doctor's professional activity.

**Purpose and objectives of the educational discipline:**

**The purpose of study of Module 1 is:** mastering of the systematized knowledge of the structure of the human body, issues of etiology, pathogenesis, typical and atypical clinical manifestations of surgical diseases, principles of clinical diagnosis methods diagnostic search and definition of further tactics of conservative and surgical treatment principles in operative accesses and volume of surgical interventions for different pathologies, skills of care of surgical patients, rehabilitation in the postoperative period.

**The main objectives of studying the Module 1 are:** formation of professional skills and skills in diagnostics and medical care for surgical diseases; curation of patients with surgical pathology; assessment of indicators of the functional state of organs and systems of the human body; determination of patient treatment tactics; mastering basic surgical manipulations; principles of surgical interventions; solving clinical situational tasks and tests.

**Competencies and learning outcomes, the formation of which contributes to the discipline (integral, General, special, matrix of competencies).**

**Integral:**

Ability to solve standard and complex specialized tasks, and practical problems in professional activities in the field of public health or in the course of training. It provides for research and / or innovation and is characterized by a complex set of conditions and requirements.

**Common:**

1. Ability for abstract thought, analysis and synthesis, ability to study and seize modern knowledge;
2. Ability to apply knowledge in practical situations;
3. Knowledge and understanding of subject industry and understanding of professional activity;
4. Ability is for adaptation and action in a new situation;
5. Ability to accept reasonable decisions; to work in a command; skills of cooperation between people;
6. Ability to communicate English. Ability to use the international Greek and Latin terms, reductions and cliches in the professional verbal and writing broadcasting;
7. Skills of the use of information and of communication technologies;
8. Definiteness and persistence are in relation to the put tasks and taken duties
9. Ability to operate socially responsibly and consciously.

**Special (professional, subject areas):**

1. Skills of questioning of patient;
2. Ability is for determination of necessary list of laboratory and instrumental researches and estimation of their results;
3. Ability is for establishment of previous and clinical diagnosis of disease;
4. Ability is for determination of the necessary mode of labour and rest at treatment of diseases;

5. Ability is for determination of character of feed at treatment of diseases;
6. Ability is for determination of principles and character of treatment of diseases;
7. Ability is for diagnosticating of the urgent states;
8. Ability is for determination of tactics of grant of urgent medicare;
9. Skills of grant of urgent medicare;
10. Ability is for realization of curatively-evacuation procedures;
11. Skills of realization of medical manipulations;
12. Ability is for realization of sanitary-hygenic and prophylactic manipulations;
13. Ability is for determination of tactics of conduct of persons that is to the clinical supervision;
14. Realization of examination of capacity;
15. Conduct of medical documentation;
16. Realization of analysis of activity of doctor, medical subdivision.

**Results of the discipline study:**
after completing the study of the module 1, the students must
**know:**
- anatomical and physiological features of the thoracic cavity and endocrine system;
- etiology, pathogenesis and classification, clinical picture of diseases of the thoracic cavity and endocrine system;
- diagnostic methods, algorithm of conservative and surgical treatment of these diseases;
- differential diagnosis with other acute diseases of the abdominal cavity, retroperitoneal space and chest;
- principles of postoperative treatment and rehabilitation of patients with endocrine and thoracic pathology;
- risk factors for complications;
- results of laboratory and instrumental studies;
- moral and deontological principles of a medical specialist and principles of professional subordination in surgery;
- forecast of life and working capacity;
- General principles of treatment, rehabilitation and prevention of surgical diseases of the endocrine organs and chest cavity;
- maintaining medical documentation in a surgical disease's clinic;
- clinic and classification of chest injuries and closed injuries;
- emergency medical care for urgent surgical diseases of the chest cavity organs.
- anatomical and physiological features of the vascular system;
- etiology, pathogenesis, classification and clinical picture of vascular system diseases;
- diagnostic methods, algorithm of conservative and surgical treatment of diseases of the vascular system;
- principles of postoperative treatment and rehabilitation of patients with vascular system pathology;
- risk factors for complications;
- prognosis of life and working capacity in surgical diseases of the vascular system;
- General principles of treatment, rehabilitation and prevention of surgical diseases of the vascular system;
- emergency medical care for urgent conditions of surgical diseases of the vascular system.

**be able:**
1. To collect the complaints of patient, anamnesis of life in the hospital and at home on the standard chart of questioning;
2. To set and analyse the additional methods of inspection (laboratory, roentgenologic, functional). To conduct differential diagnostics of diseases on the basis of results of laboratory and instrumental researches;

3. To fromulate preliminary and clinical diagnosis basing on main clinical symptoms or syndromes with help of logic analysis, using most reliable list of diagnosis, laboratory and instrumental examination's data. During this process corresponding ethic and legal norms must be taken in account;
4. To determine the necessary mode of labour and rest at treatment of disease on the basis of previous clinical diagnosis;
5. To set a curative feed at treatment of disease on the basis of previous clinical diagnosis;
6. To appoint character and principles of treatment of disease (conservative, operative) in a hospital and at home, on the stages of medical evacuation, in on the basis of previous clinical diagnosis after algorithms and standard charts;
7. To conduct diagnostics of the urgent states and set a diagnosis (at home, outside, in a hospital), in the conditions of emergency, limit time, using standard methodologies of examination;
8. To determine tactics of grant of urgent medicare on the basis of diagnosis in the conditions of a limit time by means of standard charts;
9. To provide urgent medicare, using knowledge about a man, his organs and systems, on the basis of diagnosis of the urgent state in the conditions of a limit time on standard charts.
10. To organize and conduct curative events among a population in the conditions of emergencies;
11. To execute medical manipulations in the conditions of hospital, at home on the basis of previous clinical diagnosis and state of patient, using standard methodologies;
12. To determine tactics conducts of persons, that is subject to the clinical supervision in a hospital or at home by means of standard charts;
13. To examine of capacity to work of patients with processing of corresponding documents in the conditions of hospital on the basis of data about a disease;
14. To conduct medical documentation of patient on the basis of normative documents. To prepare reports to their work.
15. To analyse influence of environment, socio-economic and biological factors on the state of health of man, family, society. To carry out the analysis of morbidity of population, using statistical methods;
16. To conduct the analysis of activity of doctor, medical subdivision, hospital. To conduct events in relation to providing of quality of medicare;
17. To adhere to the healthy way of life;
18. To realize and follow in the activity by civil laws, freedoms and duties, constantly to promote professional and cultural levels;
19. To adhere to ethics, bioethics and deontology in the professional activity;
20. To provide necessary individual strength (and other persons) security.

**Thematic plan of lecture (according module) with an indication of the main questions are considered at the lecture.**

| № | Topic the title | Number of hours |
|---|---|---|
| | **Module 1 «Thoracic, cardiovascular, endocrine surgery»** | |
| 1. | **Thoracic trauma.**<br>Anatomical and physiological data about the lungs and pleura. Classification of lung and pleural injuries. Methods of research of patients with lung and pleural injuries. Broken rib. Pneumothorax, hemothorax, clinic, diagnosis, treatment. Emergency care for victims with chest injuries. | 2 |
| 2. | **Actual questions of cardiovascular surgery.**<br>Surgical anatomy of the chest organs. Clinical and morphological classification of heart diseases. Methods of examination in diseases of the heart. Operative treatment of heart diseases. | 2 |
| 3. | **Diseases of the mediastinum. Achalasia of the cardia. Diaphragmatic hernia. Mediastinitis.**<br>Anatomical structure of the mediastinum. Instrumental methods of examination of the mediastinum. Surgical approaches to the mediastinal organs. Mediastinitis: etiology and | 2 |

| | | |
|---|---|---|
| | pathogenesis, clinic, tactics and methods of treatment. Classification of diaphragm hernias, instrumental diagnostic methods, tactics and methods of treatment. Laparoscopic surgical interventions for the treatment of diaphragm hernias. Achalasia of the cardia: etiology, pathogenesis, diagnosis, tactics and methods of treatment. | |
| 4. | **Diseases and injuries of the main arteries.** Surgical anatomy of the arteries. Methods for the diagnosis of arterial diseases. Etiology and pathogenesis of obliterating diseases, clinical picture, conservative and surgical treatment. Prevention of acute arterial obstruction. Leriche's syndrome. Raynaud's disease. Types of damage to the main arteries. Temporary stop of bleeding. Surgical treatment methods. | 2 |
| 5. | **Diseases of the veins of the lower extremities. Venous thrombosis. Pulmonary embolism.** Etiology and pathogenesis of varicose veins. Clinical picture, diagnostics, conservative and surgical treatment of varicose veins of the lower extremities, prevention. Thrombophlebitis and phlebothrombosis of the veins of the lower extremities. Clinic, diagnostics, conservative and surgical treatment. The causes of PE, risk factors, classification, symptoms and clinical course, tactics, methods of treatment, methods of prevention. | 2 |
| | **Total:** | **10** |

**Thematic plan of practical classes for modules with an indication of the main issues that are considered in the practical lesson.**

| № | Title the topics | Number of hours |
|---|---|---|
| 1. | **Injuries to the thorax. Pneumothorax and hemothorax. Heart tamponade. Damages to the framework function. Acute respiratory failure.** *Questions.* Anatomical and physiological data about the lungs and pleura. Classification of lung and pleural injuries. Methods of research of patients with lung and pleural injuries. Broken rib. Pneumothorax, hemothorax, clinic, diagnosis, treatment. Emergency care for victims with chest injuries. | 4 |
| 2. | **Purulent diseases of the lungs. Abscess, gangrene, bronchiectasis disease. Clinic, diagnosis, and treatment.** *Questions.* Surgical anatomy of the lungs. Acute and chronic lung abscess. Bronchiectasis disease. Gangrene of the lungs. Lung cysts. Etiology, pathogenesis. Clinic, diagnostics, conservative and surgical treatment. | 4 |
| 3. | **Acute and chronic pleural empyema, pyopneumothorax. Clinic, diagnosis, and treatment.** *Questions.* Surgical anatomy of the pleura and pleural cavity. Acute and chronic pleural empyema, etiology, pathogenesis. The clinical manifestations of the limited and total empyema, pyopneumothorax, x-ray pattern. Additional methods of examination. The indications and technique of puncture of the pleural cavity. Indications and techniques for performing pleural drainage. Conservative and surgical treatment. | 4 |
| 4. | **Modern methods of diagnostics, surgical treatment of heart diseases.** *Questions.* Surgical anatomy of the chest organs. Clinical and morphological classification of heart diseases. Methods of examination in diseases of the heart. Operative treatment of heart diseases. | 4 |
| 5. | **Acquired heart defects. Clinic, diagnosis, and treatment.** *Questions.* Surgical anatomy of the heart. Clinical and morphological classification of acquired heart defects. Special methods of examination. Conservative treatment for acquired heart defects. Indications and methods of operations. Complications of heart disease. | 4 |
| 6. | **Coronary heart disease. Clinic, diagnosis, and surgical treatment.** *Questions.* Classification. Etiology and pathogenesis. Special instrumental methods of investigation of the coronary arteries. Angina. Conservative treatment. Indications for surgical treatment of coronary heart disease. Features of coronary artery bypass graft surgery. | 4 |
| 7. | **Myocardial infarction. Aneurysm of the heart. Conduction disturbance. Clinic, diagnosis, and surgical treatment.** *Questions.* Surgical anatomy of the heart. Etiology and pathogenesis of myocardial infarction. Special methods of heart examination. Principles of conservative and operative treatment of myocardial infarction. Heart aneurysms, conservative and operative treatment. Features of the application of an artificial pacemaker for arrhythmias. | 4 |

| | | |
|---|---|---|
| 8. | **Diseases of the mediastinum. Mediastinitis. Diseases and injuries of the esophagus. Achalasia of the cardia. Diverticulum of the esophagus. Clinic, diagnosis, and treatment.**<br>*Questions.* Anatomical structure of the mediastinum. Benign, malignant tumors, cysts of mediastinal organs. Instrumental methods of examination of the mediastinum. Etiology and pathogenesis, clinic mediastinates. Surgical access to mediastinal organs. Tactics and methods of treatment of acute mediastinitis. Damage to the esophagus. Modern minimally invasive methods of treating diseases of the mediastinal organs. | 4 |
| 9. | **Diaphragmatic hernias. Clinic, diagnosis, and treatment.**<br>*Questions.* Anatomical structure of the diaphragm. Classification of hernias of the diaphragm. Instrumental methods of research in the case of diaphragm hernia. Tactics and methods of treatment. Modern laparoscopic interventions in the treatment of diaphragm hernias. | 4 |
| 10. | **Euthyroid and toxic goiter. Clinic, diagnosis, and treatment.**<br>*Questions.* Surgical anatomy of the thyroid gland. Clinical and morphological classification of thyroid diseases. Objective examination in diseases of the thyroid gland. Special methods of examination. Conservative and operative treatment of thyroid diseases. Complications of thyroid diseases. | 4 |
| 11. | **Diseases of the breast. Mastitis. Gynecomastia. Clinic, diagnosis, and treatment.**<br>*Questions.* Surgical anatomy of the mammary glands. Clinical and morphological classification of breast diseases. Objective examination of the mammary glands. Special methods of examination of mammary glands. Principles of conservative and operative treatment of breast diseases. | 4 |
| 12. | **Chronic ischemia of the lower extremities. Obliterating atherosclerosis and endarteritis. Clinic, diagnosis, and treatment.**<br>*Questions.* The etiology and pathogenesis of obliterate atherosclerosis, endarteritis. Leriche's Syndrome. Raynaud. Classification, clinic, diagnosis, treatment of chronic obliterating diseases of the lower limb arteries. | 4 |
| 13. | **Arterial thrombosis and embolism. Clinic, diagnosis, and treatment.**<br>*Questions.* Surgical anatomy of the arteries. Etiology and pathogenesis of thrombosis and embolism. Methods for diagnosing arterial disease. Clinic of embolism and thrombosis. Conservative and operative treatment of acute arterial thrombosis and embolism. Anticoagulants, fibrinolytic-inflammatory drugs, and thrombolytic drugs. Prevention of acute arterial obstruction. | 4 |
| 14. | **Varicose veins of the lower extremities. Clinic, diagnosis, and treatment.**<br>*Questions.* Etiology and pathogenesis of varicose veins. Clinic of varicose veins of the lower extremities. Functional tests to determine the condition of the lower limb vein valves. Conservative and operative treatment of varicose veins of the lower extremities. Prevention of varicose veins of the lower extremities. | 4 |
| 15. | **Deep vein thrombosis. Clinic, diagnosis, treatment.**<br>Questions. Etiology and pathogenesis of thrombophlebitis of subcutaneous veins of the lower extremities. Clinical picture. Differential diagnosis of thrombophlebitis of subcutaneous and deep veins of the lower extremities. Conservative and operative treatment of subcutaneous vein thrombophlebitis of the lower extremities. Etiology and pathogenesis of deep vein thrombosis of the lower extremities. Clinical implications. Clinical characteristics of white and blue phlegmasia. Conservative and operative treatment of deep vein thrombosis of the lower extremities. Pagett-Schretter Syndrome. | 4 |
| 16. | **Pulmonary embolism. Clinic, diagnosis, and treatment. Prevention.**<br>*Questions.* Causes of pulmonary embolism. Risk factor. Classification. Symptoms and clinical course. Tactics and choice of treatment method. Conservative and surgical treatment. Methods of prevention. | 4 |
| 17. | **Post-thrombophlebitis syndrome. Lymphedema of the extremities. Clinic, diagnosis, and treatment.**<br>*Questions.* Etiology and pathogenesis. Classification. Clinical characteristics of various forms. Diagnostic method. Conservative and surgical treatment. Examination of the patient's ability to work. Etiology and pathogenesis of lymphedema. Clinic. The methods of diagnosis. Tactics and methods of treatment. | 4 |
| 18. | **Abdominal ischemic syndrome. Clinic, diagnosis, and treatment.**<br>*Questions.* Features of blood circulation of the abdominal organs. Etiology and pathogenesis. | 2 |

| | | |
|---|---|---|
| | Classification. Clinical picture. Diagnostic method. Conservative treatment methods. Indications and types of surgical treatment. | |
| | **Total:** | **70** |

**Self-directed work**

| Seq. No. | Title of the topic | Number of hours |
|---|---|---|
| 1 | Preparing to the practical lessons | 36 |
| 2 | Preparation for final module control | 4 |
| | Total | 40 |

**Individual task.**

1. Study of additional literature on the topics of module 1 "Thoracic, cardiovascular, endocrine surgery".
2. To take part in the scientific work of the department.
3. To take part in the work of the student scientific society.
4. Preparation of a report for scientific student conference.
5. Production of stands, codograms, training videos.

**List of theoretical questions for preparing students for the semester final attestation (SFA).**

1. Anatomy and physiology of the chest cavity organs.
2. Classification, clinical picture, diagnostics, emergency care, treatment of pneumothorax.
3. Classification, clinical picture, diagnostics, emergency care, treatment of hemothorax.
4. Clinic, diagnostics, emergency care, cardiac tamponade treatment.
5. Classification, features, clinic, diagnosis of rib fractures.
6. Floating rib fractures. Features, clinic, emergency care.
7. Subcutaneous emphysema. Reasons, clinic, diagnosis, surgical treatment.
8. Etiology, pathogenesis, clinical picture, diagnosis, treatment of acute lung abscess.
9. Etiology, pathogenesis, clinical picture, diagnosis, treatment of chronic lung abscess.
10. Etiology, pathogenesis, clinical picture, diagnosis, treatment of bronchiectasis.
11. Etiology, pathogenesis, clinical picture, diagnosis, treatment of lung gangrene.
12. Etiology, pathogenesis, clinical picture, diagnosis, treatment of acute pleural empyema.
13. Etiology, pathogenesis, clinical picture, diagnosis, treatment of chronic pleural empyema.
14. Pyopneumothorax. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
15. Special instrumental methods for diagnosing heart diseases.
16. Etiology, pathogenesis, classification, diagnosis of ischemic heart disease.
17. Acquired heart defects. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
18. Aneurysms of the heart. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
19. Myocardial infarction. Etiology, pathogenesis, clinical picture, diagnostics, surgical treatment.
20. Heart rhythm disturbances. Etiology, pathogenesis, clinical picture, diagnostics, surgical treatment.
21. Acute mediastinitis. Etiology, pathogenesis, clinical picture, diagnostics, surgical treatment.
22. Surgical approaches for operations on the mediastinal organs.
23. Tactics and methods of treatment of iatrogenic damage to the esophagus.
24. Achalasia of the esophagus. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
25. Diverticula of the esophagus. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
26. Burns of the esophagus. Clinical stages, emergency care, treatment, complications.
27. Hernia of the diaphragm. Etiology, pathogenesis, clinical picture, diagnostics, surgical treatment.
28. Surgical anatomy of the thyroid gland, clinical and morphological classification of thyroid diseases

29. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment of nodular euthyroid goiter.
30. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment of diffuse toxic goiter.
31. Early and late complications after thyroid surgery.
32. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment of thyroiditis.
33. Acute mastitis. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment.
34. Mastopathy. Classification, clinic, diagnosis, treatment.
35. Gynecomastia. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment.
36. Special instrumental methods of examination of arteries and veins.
37. Obliterating atherosclerosis. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment.
38. Obliterating endarteritis. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment.
39. Differential diagnosis of obliterating endarteritis and atherosclerosis.
40. Leriche syndrome. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
41. Raynaud's disease. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
42. Embolism and thrombosis of the great arteries. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
43. Provision of emergency care and tactics of treatment of acute limb ischemia.
44. Anticoagulants, fibrinolytic and thrombolytic drugs.
45. Methods of control of the blood coagulation system, their characteristics.
46. Varicose veins of the lower extremities. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
47. Prevention of varicose veins of the lower extremities.
48. Phlebothrombosi. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
49. Clinical characteristics of white and blue phlegmas.
50. Thrombosis of the inferior vena cava. Clinic, diagnostics, treatment.
51. Paget-Schrötter syndrome. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
52. Thrombophlebitis of the superficial veins of the lower extremities. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
53. Differential diagnosis of saphenous thrombophlebitis and phlebothrombosis of the lower extremities.
54. Thromboembolism of the pulmonary artery. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
55. Methods for the prevention of pulmonary embolism.
56. Post-thrombophlebitic syndrome (PTFS). Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment.
57. Lymphedema of the lower extremities. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment.
58. Differential diagnosis of post-thrombophlebitic syndrome and lymphostasis.
59. Abdominal ischemic syndrome (AIS). Etiology, pathogenesis, classification, clinical picture, diagnosis.
60. Differential diagnosis of abdominal ischemic syndrome with other surgical diseases.
61. Complications of abdominal ischemic syndrome, causes of occurrence, clinical picture, diagnosis.
62. Indications and methods of surgical treatment of abdominal ischemic syndrome.

**List of practical skills for semester final attestation (SFA).**
1. Drawing up an individual diagnostic program for examining a patient.
2. Interpretation of the results of laboratory and instrumental research methods.
3. Carrying out differential diagnostics of surgical diseases.

4. Justification and formulation of the preliminary diagnosis.
5. Determination of indications for surgical intervention.
6. Carrying out dressings.
7. Administration of drugs, placement of an intravenous catheter.
8. Catheterization of the bladder.
9. Maintaining the medical history of the surgical patient.
10. Rendering emergency care in case of emergency.
11. Methods for examining the mammary glands.
12. Methods for examining the thyroid gland.
13. Evaluation of phlebo- and angiograms.
14. Carrying out a puncture of the pleural cavity with hemo- and pneumothorax.
15. Drainage of the pleural cavity with hemo- and pneumothorax.
16. Applying an occlusive dressing.
17. Carrying out novocaine blockade for rib fractures.
18. Fixation of the chest wall for floating fractures of the ribs.

**Final control is semester final attestation (SFA)**

**System of current and final control.**

A teacher carries out current control systematic during realization of the practical employments envisaged by an executable educational code from the module 1. Requirements to current control are into consideration of students at the beginning of teaching of the module 1.

A teacher estimates success of every student on every class on the traditional scale of the generalized, standardized criteria.

Table 1

The generalized standardized criteria of evaluation of knowledge of students in PSMU

| A four-point traditional scale | Category ECTS | Evaluation criteria |
|---|---|---|
| 5 (excellent) | A | A student shows special creative abilities, is able to acquire knowledge independently, without the help of a teacher finds and processes the necessary information, is able to use the acquired knowledge and skills to make decisions in unusual situations, convincingly argues answers, independently reveals their talents and inclinations. has at least 90% knowledge of the topic both during the survey and all types of control. |
| 4 (good) | B | Student is fluent in the studied amount of material, applies it in practice, freely solves exercises and problems in standardized situations, independently corrects errors, the number of which is insignificant, has at least 85% knowledge of the topic as during the survey, and all types of control. |
| | C | The student is able to compare, summarize, systematize information under the guidance of a research and teaching staff, in general, independently apply it in practice, to control their own activities; to correct mistakes, among which there are significant ones, to choose arguments to confirm opinions, has at least 75% of knowledge on the topic both during the survey and all types of control. |
| 3 (satisfactory) | D | The student reproduces a significant part of the theoretical material, shows knowledge and understanding of the basic |

| | | |
|---|---|---|
| | | provisions with the help of research and teaching staff can analyze educational material, correct errors, among which there is a significant number of significant, has at least 65% knowledge of during the survey, and all types of control. |
| | E | The student has the educational material at a level higher than the initial, a significant part of it reproduces at the reproductive level. has at least 60% knowledge of the topic both during the survey and all types of control. |
| 2 (unsatisfactory) | FX | The student has the material at the level of individual fragments, which make up a small part of the material, has less than 60% knowledge of the topic both during the survey and all types of control. |
| | F | The student has the material at the level of elementary recognition and reproduction of individual facts, elements, has less than 60% knowledge of the topic as during the survey, and all types of control. |

Converting of total estimation of current success for the module (at most 120 points) is conducted after the study of the module 1 according to a table 2.

Table 2

Unified table of correspondence of scores for current performance, scores for final module control, exam, and traditional four-point score.

| Average score for current performance (A) | Points for current success in the module (A * 24) | Points for final module control from the module (A*16) | Points for the module and / or exam (A*24 + A*16) | Category ECTS | By 4-point scale |
|---|---|---|---|---|---|
| 2 | 48 | 32 | 80 | **F FX** | **2 unsatisfactorily** |
| 2,1 | 50 | 34 | 84 | | |
| 2,15 | 52 | 34 | 86 | | |
| 2,2 | 53 | 35 | 88 | | |
| 2,25 | 54 | 36 | 90 | | |
| 2,3 | 55 | 37 | 92 | | |
| 2,35 | 56 | 38 | 94 | | |
| 2,4 | 58 | 38 | 96 | | |
| 2,45 | 59 | 39 | 98 | | |
| 2,5 | 60 | 40 | 100 | | |
| 2,55 | 61 | 41 | 102 | | |
| 2,6 | 62 | 42 | 104 | | |
| 2,65 | 64 | 42 | 106 | | |
| 2,7 | 65 | 43 | 108 | | |
| 2,75 | 66 | 44 | 110 | | |
| 2,8 | 67 | 45 | 112 | | |
| 2,85 | 68 | 46 | 114 | | |
| 2,9 | 70 | 46 | 116 | | |
| 2,95 | 71 | 47 | 118 | | |
| 3 | 72 | 50 | 122 | **E** | **3 satisfactorily** |
| 3,05 | 73 | 50 | 123 | | |

| | | | | | |
|---|---|---|---|---|---|
| 3,1 | 74 | 50 | 124 | | |
| 3,15 | 76 | 50 | 126 | | |
| 3,2 | 77 | 51 | 128 | | |
| 3,25 | 78 | 52 | 130 | **D** | |
| 3,3 | 79 | 53 | 132 | | |
| 3,35 | 80 | 54 | 134 | | |
| 3,4 | 82 | 54 | 136 | | |
| 3,45 | 83 | 55 | 138 | | |
| 3,5 | 84 | 56 | 140 | **C** | **4 good** |
| 3,55 | 85 | 57 | 142 | | |
| 3,6 | 86 | 58 | 144 | | |
| 3,65 | 88 | 58 | 146 | | |
| 3,7 | 89 | 59 | 148 | | |
| 3,75 | 90 | 60 | 150 | | |
| 3,8 | 91 | 61 | 152 | | |
| 3,85 | 92 | 62 | 154 | | |
| 3,9 | 94 | 62 | 156 | | |
| 3,95 | 95 | 63 | 158 | | |
| 4 | 96 | 64 | 160 | **B** | |
| 4,05 | 97 | 65 | 162 | | |
| 4,1 | 98 | 66 | 164 | | |
| 4,15 | 100 | 66 | 166 | | |
| 4,2 | 101 | 67 | 168 | | |
| 4,25 | 102 | 68 | 170 | | |
| 4,3 | 103 | 69 | 172 | | |
| 4,35 | 104 | 70 | 174 | | |
| 4,4 | 106 | 70 | 176 | | |
| 4,45 | 107 | 71 | 178 | | |
| 4,5 | 108 | 72 | 180 | **A** | **5** excellent |
| 4,55 | 109 | 73 | 182 | | |
| 4,6 | 110 | 74 | 184 | | |
| 4,65 | 112 | 74 | 186 | | |
| 4,7 | 113 | 75 | 188 | | |
| 4,75 | 114 | 76 | 190 | | |
| 4,8 | 115 | 77 | 192 | | |
| 4,85 | 116 | 78 | 194 | | |
| 4,9 | 118 | 78 | 196 | | |
| 4,95 | 119 | 79 | 198 | | |
| 5 | 120 | 80 | 200 | | |

**Form of final control of success of studies.**

The final semester certification is conducted during the credit-certification week in accordance with the schedule, which is developed no later than a month before the beginning of the credit-certification week.

Before passing the final semester certification, students who:

- attended all practical classes and lectures or worked out missed classes in accordance with the established procedure;

– have a current academic performance of at least 72 points;

- have a mark in the individual curriculum (test book) about admission to exams.

The final semester certification is accepted by the Commission of examiners approved by the order of the rector.

Each student receives a ticket containing 2 theoretical questions and a situational problem with three questions during the final semester certification. For the answer to each question, the examiner scores on a four-point scale, from which the average score is calculated.

The results of the final semester certification are discussed by the Commission, recorded in the" statement of progress " and signed by the members of the Commission. Results are announced to students. Retake of the final semester certification is allowed no more than two times.

Students who during the study of the module, which is the final semester certification, had an average score of current performance from 4.50 to 5.0 are exempt from the FSA and automatically (by agreement) receive a final grade, respectively (table 2), with the presence a student at the FSA is required.

**Methods of studies.**

1. Verbal (lecture, explanation, story, conversation, instruction)
2. Visual (multimedia presentations, demonstration of videos and broadcasts from the operating room)
3. Practical:

– preparation for practical classes;
– independent study of topics that are not included in the classroom plan;
– solving test tasks;
– mastering the technique of performing surgical manipulations;
– work in a student scientific circle, writing scientific articles.

4. Active:

– thematic discussions;
– cerebral assault;
– round table;
– analysis of certain situations (key's-method);
– imitation tasks;
– problem exposition;
– presentations;
– training;
– business games.

**Control methods.**

– previous (weekend);
– current;
– final.

**Methodological support.**

– methodological developments of lectures;
– methodological recommendations for teachers to conduct practical classes;
– guidelines for independent work of students in preparation for practical classes and in the classroom;

- guidelines for independent work of students of higher education applicants on the study of topics submitted for independent study;
- a set of tests and situational tasks for the topics of practical classes;
- sets of tests and situational tasks from the Bank of license exams and their analogues for each lesson;
- textbooks, manuals on surgery, educational videos.

**Recommended reading.**

**1. Base.**


1. Surgery : [textbook for students of higher medical educational institutions of Ministry of Health of Ukraine] / ed. Ya. S. Bereznyts'kyy, M. P. Zakharash, V. G. Mishalov ; K. M. Amosova, Ya. S. Bereznyts'kyy, A. O. Burka [et al.]. – 2nd ed. – Vinnytsia : Nova Knyha, 2018. – 711 p.
2. Urgent abdominal surgery : [навчальний посібник для студентів мед. ф-тів. закладів вищої мед. освіти, які навч. англ. мовою] / V. I. Liakhovskyi, I. I. Nemchenko, O. M. Liulka [at al.]; під ред. В. І. Ляховського ; Ministry of healthcare of Ukraine, UMSA, Department of surgery № 1. – Poltava : Астрая, 2020. – 163 p.


**2. Additional information.**


1. General surgery : [textbook for students of higher educational institutions] : пер. з укр. / ed. Ya. S. Bereznytsky, M. P. Zakharash, V. G. Mishalov, V. O. Shidlovsky ; V. P. Andriushchenko, Ya. S. Bereznytsky, A. V. Verba [et al.]. – Vinnytsia : Nova Knyha, 2019. – 327 p.


**Information resources.**

https://www.yumpu.com/en/document/view/20435318/hospital-surgery-kovalchuk-2004-200-dpipdf
https://www.amazon.com/Gale-Encyclopedia-Surgery-Patients-Caregivers/dp/0787691232
https://oxfordmedicine.com/view/10.1093/med/9780199699476.001.0001/med-9780199699476
https://ur.b-ok.global/book/2222565/91d31e
https://www.springer.com/gp/book/9781588295545
https://www.springer.com/gp/book/9781846282119
https://flylib.com/books/en/3.98.1.5/1/

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