**Kharkiv National Medical University**

**Educational and Scientific Institute of Postgraduate Education**

**Department of Surgery №1**

**Educational program for training specialists of the second (master's)**

**level of higher education training 22 "Health"**

**in specialty 222 "Medicine"**

**SYLLABUS**

**"THORACO-LAPAROSCOPIC TECHNOLOGIES IN SURGERY"**

The syllabus of the discipline was approved at the meeting

Department of Surgery №1

Protocol from

«\_28\_» August \_\_\_\_ 2020 № \_1\_\_

Head of Department

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ prof. V.V. Boyko

 (signature) (surname and initials)

"\_28\_" \_\_\_\_ August \_\_\_\_\_\_ 2020\_

Approved by the methodical commission of KhNMU on problems of professional training

surgical profile

Protocol from

«28\_\_» \_\_\_\_\_\_ August \_\_\_\_ 2020 № \_\_\_1\_

Chairman of the methodical commission of KhNMU on problems of professional training

surgical profile

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ prof. V.O. Syplivy

 (signature) (surname and initials)

"28\_\_" \_\_\_\_\_\_ August \_\_\_\_\_\_\_\_ 2020\_\_

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**Off-line consultations:** schedule and venue according to the schedule of the department.

**Online consultations:** schedule and venue by prior arrangement with the teacher.

**Locations:** classes are in the conditions of the State Institution "V.T. Zaitsev Institute of General and Emergency Surgery of the National Academy of Medical Sciences of Ukraine"

# **1. Description of the discipline**

**Table 1**

|  |  |  |
| --- | --- | --- |
| **Name of indicators** | **Field of knowledge, direction of training, educational and qualification level** | **Characteristics of the discipline** |
| Day form of study | evening form of study |
|  | **Educational program for training specialists of the second (master's)****level of higher education in the field of knowledge** **22 "Health" in specialty 222 "Medicine"** | **Normative****(optional)** |
| **The total number of hours – 90** | **Specialty:****222 "Medicine"**(code and name) | **Year of preparation:** |
| **6** |
| **Semesters** |
|  |
| **Lections** |
| **Hours for full-time study:** **classroom - 60** **practical classes,****independent work of the student - 30 hours.** | **Education level:****Master specialist** | **0** |
| **Practical, seminars** |
| **60** |
| **Laboratory** |
| **0** |
| **Independent work** |
| **30** |
| **Individual tasks:** |
| **Type of control:****Differentiated credit** |

**General characteristics of the discipline**

This course for 6th year students combines the teaching materials of the department, which were developed for the study of 9 topics in practical classes and 4 topics for self-study in emergency surgery. Each topic of the course contains sections that correspond to professionally-oriented tasks of medical activity, approved by industry standards of higher education. Results: to provide students with the necessary teaching materials on all topics of practical training and self-study, which will improve the training of future surgeons in accordance with the requirements of national standards of higher education. The role and place of discipline in the system of training Educational program of higher education of Ukraine, second (master's) level, educational qualification awarded - master, field of knowledge - 22 Health care, specialty 222 "Medicine" is based on the Law of Ukraine "On Higher Education" and the resolution of the Cabinet of Ministers of Ukraine 01.02.2017 № 53 "On amendments to the resolution of the Cabinet of Ministers of Ukraine dated 29.04.2015 № 266", in accordance with the order of the Ministry of Education and Science of Ukraine dated 01.06.2016 № 600 "On approval and implementation of Methodological recommendations for the development standards of higher education ". The course program determines the prerequisites for access to education, orientation and main focus of the program, the amount of ECTS credits required for a master's degree, a list of general and special (professional) competencies, normative and variable content of training, formulated in terms of learning outcomes and control requirements quality of higher education. The department accepts qualified students of any race, national or ethnic origin, sex, age, people with special needs, any religion, sexual orientation, gender, veteran status or marital status for all rights, privileges, programs and activities, provided to university students. The organization of the discipline "Surgery" according to the updated version of the Standard Curriculum for Surgery on the basis of the European Credit Transfer System (ECTS) training provides an opportunity to gain practical skills and develop professional skills for diagnosis and care of patients with surgical diseases, including emergency surgery. care for urgent surgical conditions.

**Link to the video annotation** of the discipline (if available), etc.: http://www.knmu.kharkov.ua/index.php?option=com\_content&view=article&id=95%3A-1&catid=7%3A2011-05- 05-09-09-08 & Itemid = 27 & Lang = uk

Moodle discipline page (if available):

http://31.128.79.157:8083/course/view.php?id=804

http://31.128.79.157:8083/course/view.php?id=803

<http://31.128.79.157:8083/course/view.php?id=233>

**2. The purpose and objectives of the discipline**

This course of surgery will expand and consolidate previously acquired theoretical knowledge and improve their practical skills in the most complex and most dangerous to human health component of surgery, emergency surgery. The main objectives of the course are the acquisition by students of competencies in accordance with the general and professional competencies of the educational-professional program "Medicine" of the second level of higher education in the specialty 222 Medicine (discipline "Surgery") Integrated competencies: the ability to solve typical and complex specialized problems and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements. - General competencies: the ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained; ability to apply knowledge in practical situations; knowledge and understanding of the subject area and understanding of professional activity; ability to adapt and act in a new situation; ability to make an informed decision; work in a team; interpersonal skills; ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language; skills of using information and communication technologies; determination and persistence in terms of tasks and responsibilities; ability to act socially responsibly and consciously Professional competencies in the field of Medicine: survey skills; ability to determine the necessary list of laboratory and instrumental studies and evaluate their results; ability to establish a preliminary and clinical diagnosis of the disease; ability to determine the necessary mode of work and rest, the nature of nutrition in the treatment of diseases; ability to determine the principles and nature of disease treatment; ability to diagnose emergencies; ability to determine tactics and skills of emergency medical care; skills of performing medical manipulations; ability to plan and conduct sanitary and hygienic, preventive and anti-epidemic measures, including infectious diseases; ability to determine the tactics of management of persons subject to dispensary supervision; ability to keep medical records. The study of this discipline forms in students social skills: communication (implemented through: the method of working in groups customs assault during the analysis of clinical cases, the method of presenting the results of independent work and their defense in the group), teamwork (implemented through: the method of working in groups customs assault under time of clinical case analysis), conflict management (implemented through: business games), time management (implemented through: method of self-organization during classroom work and independent work), leadership skills (implemented through: method of presenting the results of independent work and their protection in the group).

**3. Discipline status: basic;** The format of the discipline is mixed - the discipline, which is accompanied by Moodle, teaching the discipline, combines traditional forms of classroom learning with elements of distance learning, which uses available interactive information technology (ZOOM, Moodle), face-to-face and distance counseling. **4. Teaching methods.** Clinical (curation of patients of surgical profile), phantom, electronic information (presentations, video materials, methodical recommendations, lectures), scientific (participation in scientific developments on discipline), control (tests, situational tasks, an estimation of practical skills, protection) are used for carrying out of employment. clinical case)

**5. Recommended literature**

1. Жовчні нориці (сучасна концепція лікування). / В.В. Бойко, Р.М.Смачило, О.В.Малоштан, О.М.Тищенко. – Харків: Промінь. 2017. – 160 с.

1. Иллюстрированное руководство по эндоскопической хирургии: Учебное пособие для врачей-хирургов. / Под ред. С.И.Емельянова – М.: МИА, 2004. – 218 с.
2. Клиническая анатомия для хирургов, выполняющих лапароскопические и торакоскопические операции: Пер. с англ. / Под ред. Р. Савальджи, Г. Эллиса. — М.: Медицина, 2000. —360 с.
3. Лапароскопические технологии и их интеграция в билиарную хирургию. / Малоштан А.В., Бойко В.В., Тищенко А.М., Криворучко И.А. – Харьков: Промінь. 2005. – 367 с.
4. Лапароскопическая и торакоскопическая хирургия. / Франтзайдес К. Пер. с англ. — М. — СПб.: «Издательство БИНОМ» — «Невский Диалект», 2000. — 320 с.
5. Лапароскопическая хирургия. Атлас. / Паппас Т., Приор А.Д., Харниш М.С. Пер. с англ. - М.: ГЭОТАР-Медиа, 2012. - 388 с.
6. Оперативная лапароскопия / Н.Е.Чернеховская, В.Г.Андреев, А.В.Поваляев. — М.: МЕДпресс-информ, 2010. — 192 с.
7. Эндоскопическая хирургия / Федоров И.В., Сигал Е.И., Славин Л.Е. - М. : ГЭОТАР-Медиа, 2009. - 544 с.
8. Хірургія торакальна, серцево-судинна, ендокринна. Підручник для студентів VІ курсів медичних факультетів медичних вузів. / Авт. кол.: В. В. Бойко, В.М. Лісовий, Л.Й. Гончаренко, І.А. Тарабан і ін.; під ред. проф. В.В. Бойка, чл.-кор. НАМНУ проф. В.М. Лісового. - Харків, «НТМТ», 2016. - 406 с.
9. Thoracic, cardiovascular, endocrine surgery.: Textbook for VІth year students of medical faculties. / Authors: V.V. Boiko, L.I. Goncharenko, P.N. Zamyatin, Yu.B. Grigorov, I.A. Taraban at alias; edited by V.V. Boiko. – Kharkov, 2017. – 400 p.

 **6. Prerequisites, co-requisites, post-requisites.**

 ***Prerequisites.*** The study of the discipline involves the prior mastering of disciplines in medical biology, normal and pathological anatomy, normal and pathological physiology, biochemistry, microbiology, medical genetics, pharmacology and medical formulations, epidemiology and principles of evidence-based medicine, military field surgery, emergency care, emergency as well as to have practical skills of care for patients of surgical profile and their management in outpatient and inpatient settings.

 ***Co-requisite***s. The study of the discipline involves the joint acquisition of knowledge in the disciplines: emergency, traumatology, neurosurgery, ophthalmology, otolaryngology, oncology.

 ***Postrequisites.*** The main provisions of the discipline should be applied in the study of related disciplines during 6 years of study, is the basis for preparation for the licensing exam EDKI, preparation for study in higher education institutions in the programs of the third educational and scientific level of higher education.

 **7. Learning outcomes, including practical skills** (list of knowledge, skills and abilities acquired by the applicant in higher education in the process of its study).

This course focuses on the main problems of treatment, diagnosis of diseases of the adult population in pathology of the chest and abdomen, which requires thoraco-laparoscopic interventions, its diagnosis, tactics of surgical treatment, the patient's stay in the postoperative period. Clinical experience can be gained during practical classes in the leading institutions of the region (in the departments of the State Institution "Institute of General and Emergency Surgery named after VT Zaitsev NAMSU", according to the schedule. Students during the course have the opportunity to participate in curation and demonstration of patients, as well as visits to operating rooms, ie the course covers the main practical and theoretical aspects of the future family doctor.

**Table 2**

**Education Thematic Plan**

|  |  |  |
| --- | --- | --- |
| № | **Topics** | Hours |
|  |  |
|  | Introductory lesson. History of development of thoracolaparoscopic technologies in medicine. - |  |  |
|  | Tools and equipment for thoracolparoscopic interventions. Safety precautions when performing thoracolparoscopic interventions. |  |  |
|  | Preparation for thoracolparoscopic interventions. Planned and urgent, medical and diagnostic interventions. Anesthesia, indications and contraindications to thoracolparoscopic interventions. |  |
|  | Thoracoscopic operations for heart disease (pericardioscopy for pericarditis, diagnosis of heart injuries). Features of minimally invasive interventions in the connecting processes of the pericardium. |  |
|  | Thoracoscopic operations on the lungs and pleura (atypical lung resection for bullous pulmonary emphysema, resection techniques for various diseases, pleurolysis in connective processes in the pleural cavity) |  |
|  | Laparoscopic operations on the liver and biliary tract (drainage of liver abscesses and perihepatic space, removal and drainage of liver cysts, acute cholecystitis). |  |  |
|  |  Laparoscopic operations for acute and chronic pancreatitis (retroperitoneal drainage in pancreatic necrosis, resection and drainage of pancreatic cysts) |  |
|  |  Laparoscopic operations on the gastrointestinal tract (combined resection of gastric and duodenal ulcers, removal of gastrointestinal leiomyomas, removal of appendicitis, removal of mesenteric cysts) |  |
|  | Laparoscopic surgery for abdominal wall hernias. |  |
|  | Final lesson. Preparation for differentiated credit. Curation of the patient |  |  |
|  | Differentiated test 6  |  |  |
| **Summary** | Total 60 10 | Total 60 10 |
| **Hours** | Total hours 70 |

**Table 3**

**Education Thematic Plan**

|  |  |  |
| --- | --- | --- |
| № | Теми  | Кількістьгодин |
| 1 | 1 Physical bases of various methods of biological tissue processing. |  |
| 2 | 2 Diagnostic possibilities of endoscopic interventions: FEGDS, enteroscopy, colonoscopy, thoracoscopy, laparoscopy, lumboscopy and combined research methods |  |
| 3 | 3 Methods of positioning trocars. Installation of the first trocar. Thoracoparoscopic intervention in complicated situations (joint pleurisy, joint peritoneal disease). Different methods of thoracolparoscopic interventions: standard techniques, single-port access, endoluminal interventions. |  |
| 4 | 4 Laparoscopic operations for pathology of the retroperitoneal space (operations for pheochromocytoma, pathology of the kidneys and urinary tract) |  |
| **Hours** | 20 |

**Topics of practical classes**

 **1. Introductory lesson.** History of development of thoracolaparoscopic technologies in medicine.

Detailed acquaintance with laparoscopic techniques. Possibilities of methods, limits of use of thoracolaroscopy, advantages and disadvantages of thoracolaparoscopic technologies. History of thoraco- and laparoscopy development, stages of formation and current state.

 **2. Instruments and equipment for performing thoracolaparoscopic interventions.** Safety precautions when performing thoracolparoscopic interventions. Necessary technical equipment of the thoracolparoscopic operating room. Equipment and tools for operations. Methods of sterilization of thoracolparoscopic instruments. Rules for safe use of gas equipment and electrosurgical equipment. Supplies.

 **3. Preparation for thoracolparoscopic interventions.** Planned and urgent, medical and diagnostic interventions. Anesthesia, indications and contraindications to thoracolparoscopic interventions.

Features of preparation for thoracolaparoscopic interventions on planned and urgent grounds. Antibiotic prophylaxis and antibiotic therapy for planned and urgent interventions. Terms of execution of various types of operations. Methods and types of diagnostic minimally invasive interventions (review thoracolparoscopy, types of biopsies, other diagnostic possibilities). Basic requirements for perioperative anesthesia support of patients.

 **4. Thoracoscopic operations for heart disease (pericardioscopy for pericarditis, diagnosis of heart injuries).** Features of minimally invasive interventions in the pericardial connective processes.

Features of pericardioscopy (indications, contraindications, methods of performance). Pericardioscopic interventions in conjunctival processes in the pericardium. Thoracoscopic diagnosis of heart injuries. Indications and methods of performing thoracoscopic and open surgery in patients with heart injuries. Features of postoperative intervention for heart injuries.

 **5. Thoracoscopic operations on the lungs and pleura** (atypical resection of the lungs with bullous emphysema of the lungs, resection techniques for various diseases, pleurolysis in connective processes in the pleural cavity).

Features of diagnosis of bullous emphysema of the lungs and connective processes in the pleural cavity. Indications and methods of thoracoscopic interventions in various forms of bullous emphysema. Features of thoracoscopic interventions in peripheral lung formations. Thoracoscopic surgery for connective processes in the pleural cavity. Features of the postoperative period.

 **6. Laparoscopic operations on the liver and biliary tract** (cholecystectomy, drainage of liver abscesses and perihepatic space, removal, fenestration of liver cysts).

Indications for urgent cholecystectomy. Features of cholecystectomy on the background of acute inflammation. Methods of performing laparoscopic cholecystectomy. Indications for conversion in laparoscopic cholecystectomy. Features of postoperative management of patients. Classification of liver and perihepatic space abscesses. Types and methods of minimally invasive surgical treatment of liver abscesses and perihepatic space depending on the location and severity of the process.

 **7. Laparoscopic operations for acute and chronic pancreatitis.** Abdominal drainage in acute pancreatitis and pancreatic necrosis. Options for the location of liquid collectors. Indications and deadlines. Resection and drainage of pancreatic cysts. Complications and their prevention.

 **8. Laparoscopic operations for diseases of the gastrointestinal tract** (perforated gastric and duodenal ulcers, gastrointestinal leiomyomas, acute appendicitis, cysts of the mesentery, diverticular disease, peritoneal ulcer).

Cancellations and features of laparoscopic treatment of complications of peptic ulcer and duodenal ulcer. Classification of complications of perforated ulcer, peritonitis phase. Features of clinical manifestation of perforated ulcer (typical and atypical variants). Clinical manifestations depending on the age of patients. The most common methods of minimally invasive surgical treatment of PV. Recommended types of vagotomy and indications for them. Benign gastrointestinal formations (leiomyomas), clinical manifestations, complications. Diagnosis and differential diagnosis of gastrointestinal leiomyomas. Methods of laparoscopic interventions for complicated gastrointestinal leiomyomas, location of trocars depending on the location of the formation. Technique of laparoscopic appendectomy. Methods of processing the appendix stump. Indications and methods of drainage of the abdominal cavity in acute appendicitis. Methods of laparoscopic treatment of intestinal cysts. Classification of diverticular disease. Complications of diverticulitis. Types and methods of laparoscopic correction of diverticular disease and its complications. Peritoneal ulcer disease: selection of patients for minimally invasive treatment, features of laparoscopic viscerolysis.

 **9. Laparoscopic operations for abdominal wall hernias.**

Modern unified classification of abdominal wall hernias (size, location).

**Discipline policy and values.**

In order to successfully complete the relevant course, it is necessary to regularly attend practical classes; to have theoretical preparation for practical classes according to the subject; not to be late and not to miss classes; perform all necessary tasks and work in each lesson; be able to work with a partner or in a group; contact the curators of the course on various issues on the subject of classes and receive it when you need it.

Students can discuss different tasks, but their performance is strictly individual. You are not allowed to write off, use any kind of software, tips, use a mobile phone, tablet or other electronic gadgets during classes for purposes other than the educational process. Students are not allowed to attend practical classes.

Visiting patients during hospitalization is possible provided that students have appropriate clothing, a health book with a diphtheria vaccination note, the results of a measles immunity test (or a vaccination mark), or other infectious diseases according to the current epidemic situation.

Students with special needs can meet with the teacher or warn him before the start of classes, at the request of the student it can be done by the head of the group. If you have any questions, please contact the teacher.

Students are encouraged to participate in research and conferences on this topic.

All students of KhNMU are protected by the Regulations on Prevention, Prevention and Settlement of Cases Related to Sexual Harassment and Discrimination at Kharkiv National Medical University, designed to determine an effective mechanism for resolving conflict situations related to discrimination and sexual harassment. on the basis of the following normative legal acts of Ukraine: the Constitution of Ukraine; Law of Ukraine "On Education"; Law of Ukraine "On Higher Education"; Law of Ukraine "On Principles of Preventing and Combating Discrimination in Ukraine"; Law of Ukraine "On Ensuring Equal Rights and Opportunities for Women and Men"; Convention for the Protection of Human Rights and Fundamental Freedoms; Convention for the Suppression of Discrimination in Education; Convention on the Elimination of All Forms of Discrimination against Women; General Recommendation № 25 to paragraph 1 of Article 4 of the Convention on the Elimination of All Forms of Discrimination against Women, General Comment № 16 (2005) "Equal rights for men and women to enjoy economic, social and cultural rights" (Article 3 of the International Covenant on Economic, Social and Cultural Rights; UN Committee on Economic, Social and Cultural Rights); Recommendations for Education in the Spirit of International Understanding, Cooperation and Peace and Education in the Spirit of Respect for Human Rights and Fundamental Freedoms (UNESCO); Concept of the State Social Program and men for the period up to 2021. Kharkiv National Medical University provides education and work that is free from discrimination, sexual harassment, intimidation or exploitation. The University recognizes the importance of confidentiality. All persons responsible for the implementation of this policy (staff of deans, faculties, institutes and the Center for Gender Education, members of the student government and ethics committee, vice-rector for research and teaching) are confidential about those who report or accuse of discrimination. or sexual harassment (except where the law requires disclosure and / or when disclosure by the University is necessary to protect the safety of others).

KhNMU creates a space of equal opportunities free from discrimination of any national, racial or ethnic origin, sex, age, disability, religion, sexual orientation, gender, or marital status. All rights, privileges, programs and activities granted to students or staff of the University apply to all without exception, provided they are properly qualified. The anti-discrimination policy and the policy of counteracting sexual harassment of KhNMU are confirmed by the Code of Corporate Ethics and the Charter of KhNMU.

Behavior in the audience

It is important for students to follow the rules of good behavior at the university. These rules are common to all, they also apply to all faculty and staff, and are not fundamentally different from the generally accepted norms.

During classes it is allowed:

- leave the audience for a short time if necessary and with the permission of the teacher;

- drink soft drinks;

- take photos of presentation slides;

- take an active part in the class

Forbidden:

- eat (except for persons whose special medical condition requires another - in this case, medical confirmation is required);

- smoking, drinking alcohol and even low-alcohol beverages or drugs;

- use obscene language or use words that offend the honor and dignity of colleagues and faculty;

- gambling;

- damage the material and technical base of the university (damage inventory, equipment; furniture, walls, floors, litter the premises and territories);

- shouting, shouting or listening to loud music in classrooms and even in corridors during classes.

Plagiarism and academic integrity

The Department of Surgery №1 maintains zero tolerance for plagiarism. Male and female students are expected to constantly raise their awareness of academic writing. The first lessons will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

**Occupational Health**

The first lesson of the course will explain the basic principles of labor protection by conducting appropriate training. It is expected that everyone should know where the nearest evacuation exit is, where the fire extinguisher is, how to use it, and so on.

The procedure for informing about changes in the syllabus: the necessary changes in the syllabus are approved by the methodical commission of KhNMU on the problems of professional training of surgical profile and published on the site of KhNMU, the site of the Department of Surgery №1 KhNMU.

**Evaluation policy**

To receive credit for the course "Thoraco-laparoscopic technologies in surgery" it is necessary to attend all practical classes, have the necessary level of knowledge on the topics of classes, the ability to solve questions from the license exam KROK - 2 from the course Surgery. The number of points received by a student per course depends on the level of knowledge, the degree of mastery of practical skills.

- Current - current educational activities.

- Final - differentiated test.

Assessment of individual student tasks is carried out by performing the tasks of the teacher:

• report of the abstract on a practical lesson 0 - 2 points;

• report with a presentation in a practical lesson 0 - 3 points,

• report at scientific and practical conferences of the department, university, writing abstracts, articles 0 - 5 points;

• participation in the All-Ukrainian Olympiad - 5 - 10 points

Differentiated credit - is conducted by the teacher of the academic group in the last lesson of the discipline. Admission to the test is determined in the points of the current educational activity, namely: minimum 70 points, maximum - 120 points.

**Table 4**

**Recalculation of the average score for current activities in a multi-point scale**

**(for disciplines that end with a d / z or an exam)**

| 4-poins scale | 200-points scale |  | 4-points scale | 200-points scale |
| --- | --- | --- | --- | --- |
| 5,00 | **120** | 3.91-3,94 | 94 |
| 4.95-4,99 | 119 | 3.87-3,9 | 93 |
| 4.91-4,94 | 118 | 3.83- 3,86 | 92 |
| 4.87-4,9 | 117 | 3.79- 3,82 | 91 |
| 4.83-4,86 | 116 | 3.74-3,78 | 90 |
| 4.79-4,82 | 115 | 3.7- 3,73 | 89 |
| 4.75-4,78 | 114 | 3.66- 3,69 | 88 |
| 4.7-4,74 | 113 | 3.62- 3,65 | 87 |
| 4.66-4,69 | 112 | 3.58-3,61 | 86 |
| 4.62-4,65 | 111 | 3.54- 3,57 | 85 |
| 4.58-4,61 | 110 | 3.49- 3,53 | 84 |
| 4.54-4,57 | 109 | 3.45-3,48 | 83 |
| 4.5-4,53 | 108 | 3.41-3,44 | 82 |
| 4.45-4,49 | 107 | 3.37-3,4 | 81 |
| 4.41-4,44 | 106 | 3.33- 3,36 | 80 |
| 4.37-4,4 | 105 | 3.29-3,32 | 79 |
| 4.33-4,36 | 104 | 3.25-3,28 | 78 |
| 4.29-4,32 | 103 | 3.21-3,24 | 77 |
| 4.25- 4,28 | 102 | 3.18-3,2 | 76 |
| 4.2- 4,24 | 101 | 3.15- 3,17 | 75 |
| 4.16- 4,19 | 100 | 3.13- 3,14 | 74 |
| 4.12- 4,15 | 99 | 3.1- 3,12 | 73 |
| 4.08- 4,11 | 98 | 3.07- 3,09 | 72 |
| 4.04- 4,07 | 97 | 3.04-3,06 | 71 |
| 3.99-4,03 | 96 | 3.00-3,03 | **70** |
| 3.95- 3,98 | 95 | **Less than 3,00** | **Not enough** |

**The minimum number of final points** that a student must score **for admission to the final certification** - **graded test** - **70 points**, **the maximum number of points for IPA**, which a student can score when studying all topics of the discipline -**120 points.**

Differentiated test (DR) on the subject "Thoraco-laparoscopic technologies in surgery" is conducted by the teacher of the group.

Students who have scored at least the minimum number of final points for IPA - 70 points are allowed to compile the DZ.

The form of conducting DZ is standardized and according to the methodology approved by the department is carried out in two stages.

And the stage - the initial level of assessment of DZ consists of 2 parts:

1. Practical-oriented part, which involves the implementation of tasks set by the OKH at the level of basic requirements for knowledge, skills and abilities in the surgical field, and includes:

1) tasks for professional training in working with surgical patients;

2) tasks for evaluating the results of laboratory and instrumental research methods in surgical patients;

3) tasks for diagnosis and provision of emergency medical care in emergencies in surgery.

Practically-oriented part of the DZ is carried out in the form of supervision by each student of the patient on the studied subject of the discipline "Thoraco-laparoscopic technologies in surgery" with the completion of the "Protocol of supervision"

Directly differentiated test is evaluated: minimum - 50 points, maximum - 80 points. The grade in the discipline is the sum of points for the current educational activity and differentiated credit in points: minimum - 120 points, maximum - 200 points and corresponds to the national scale and the ECTS scale.

During the assessment of mastering each subject of the discipline (PND) and the final lesson (PZ) the student is graded according to the traditional 4-point system: "excellent", "good", "satisfactory" and "unsatisfactory".

The final score for current learning activities (PND) and final classes (PZ) is defined as the arithmetic mean of traditional grades for each class and PZ, rounded to 2 decimal places and listed in a multi-point scale according to Tables 1.

The recalculation of the average score for IPA and software for disciplines that end with a differentiated credit is made in accordance with Table 1. The minimum number of points that a student must score for admission to a differentiated credit - 70 points, the minimum positive score on a differentiated credit, respectively 50 points, maximum - 80 points. The maximum score for differentiated credit is 200 points, the minimum is 120 points.

Students who have completed all types of work provided for in the curriculum and scored at least the minimum number of points in the study of sections are admitted to the differentiated test.

The form of differentiated credit is standardized and includes control of theoretical (test control) and practical training (demonstration of student skills at the bedside of a sick child, solving structured situational problems, performing manipulations).

Test control includes 50 test tasks.

Students perform practical skills at the patient's bedside (assessment of the general condition of the sick child, analysis of anamnesis data, objective examination and determination of clinical changes by organs and systems, justification of preliminary diagnosis, treatment, emergency measures, etc.).

Solving a complex structured situational problem, which includes the interpretation of laboratory and instrumental research data, substantiation of clinical diagnosis, determination of therapeutic tactics, appointment of treatment or emergency care.

Exam or differentiated test in a discipline or its part is a process during which the received for a course (semester) are checked:

- level of theoretical knowledge;

- development of creative thinking;

- skills of independent work;

- competencies - the ability to synthesize the acquired knowledge and apply them in solving practical problems.

Differentiated credit is conducted by the teacher of the group at the last practical lesson, and for the session a schedule is set, approved by the rector of KhNMU, indicating the specific dates of the exams.

If the exam is not passed, the dates of re-setting during the holidays are set, until the beginning of the next semester.

Assessment in the discipline is the current educational activity (consists of the total number of points during the academic semester, which can be assessed from 70 to 120 points) + differentiated test (consists of assessment of practical skills, laboratory and instrumental research methods and problem solving) = 120 points + 80 points = 200 points.

**Table 5**

**Conversion of discipline assessment points into ECTS**

**and traditional estimates**

|  |  |  |
| --- | --- | --- |
| **Score on a 200-point scale** | **Score on a point****scale ESTS** | **Score on a 4-point traditional scale**  |
| 200 – 180 | A | Excellent |
| 179 - 160 | B | Well |
| 159 - 150 | C | Well |
| 149 - 130 | D | Satisfactorily |
| 129 – 120 | E | Satisfactorily |
| less120 | F, Fx | Unsatisfactorily  |

**The maximum number** of points that a student can score for studying the discipline - 200 points, including the maximum number of points for current educational activities - 120 points, as well as the maximum number of points according to the results of differentiated credit - 80 points. The minimum number of points is 120 points, including the minimum current educational activity - 70 and according to the results of DC - 50 points.

Head of the Department of Surgery № 1

Professor, MD Boyko V.V.