Ministry of Healthcare of Ukraine
Poltava State Medical University

Department of Anatomy with Clinical Anatomy and Operative Surgery

SYLLABUS

CLINICAL ANATOMY AND OPERATIVE SURGERY

(title of the academic discipline)
Compulsory discipline

(compulsory / selective discipline)

level of higher education	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	«Medicine»
mode of study	full-time
course(s) and semester(s) of study of the discipline	II course, 4 semesters

Poltava – 2023

INFORMATION ABOUT LECTURERS WHO DELIVER THE ACADEMIC DISCIPLINE

Surname, name, patronymic of the lecturer (lecturers), scientific degree, academic title	Bilash Serhiy Mykhaylovych, Doctor of Biological Sciences, Professor
Profile of the lecturer (lecturers)	https://klanatomy.pdmu.edu.ua/team
Contact phone	60-96-12
E-mail:	klanatomy@pdmu.edu.ua
Department page at the website of PSMU	https://klanatomy.pdmu.edu.ua/

MAIN CHARACTERISTICS OF THE ACADEMIC DISCIPLINE

The scope of the academic discipline (module)

Number of credits / hours – 3/90, of which:
Lectures (hours) – 12
Practical classes (hours) – 36
Self-directed work (hours) – 42
Type of control: final module control

The policy of the academic discipline

The policy of the academic discipline is regulated by a system of requirements that a lecturer imposes on a student in the study of the discipline and is based on the principles of academic integrity. Requirements may relate to attendance (prohibition of absences, delays, etc.); rules of conduct in the classroom (active participation, fulfillment of the required minimum of training activities, disconnection of mobile telephones, etc.); incentives and penalties (in what cases points can be accrued or deducted, etc.).

It is recommended to develop the policy of academic discipline taking into account the norms of the legislation of Ukraine on academic integrity, the Statute, the Regulations of PSMU and other normative documents.

Example: When organizing the educational process at PSMU, lecturers and students act in accordance with:

Regulation on the organization of the educational process at Poltava State Medical University;

Regulation on the academic integrity of recipients of higher education and employees of Poltava State Medical University;

Internal code of conduct for students of Poltava State Medical University;

Regulation on the organization and methods for assessment of educational activities of higher education recipients at Poltava State Medical University;

Regulation on the organization of self-directed work of students at Poltava State Medical University;

Regulation on retaking missed classes and making up unsatisfactory grades by the recipients of higher education at Poltava State Medical University;

Regulation on the procedure of forming the individual educational trajectories for the recipients of higher education at Poltava State Medical University (https://www.pdmu.edu.ua/n-process/department-npr/normativni-dokumenti).

Description of the academic discipline

For a modern doctor, clinical anatomy and operative surgery is a classic model of a university course that is adapted to the needs of medicine, which provides each student with knowledge in the light of natural science ideas about the structure and function of the human body as a whole, the ability to use acquired knowledge in other basic medical sciences and in the further professional activity.

Pre-requisites and post-requisites of the academic discipline

Pre-requisites: The discipline «Clinical Anatomy and Operative Surgery» is based on the study by students of Human Anatomy, Latin Language and Medical Terminology, Ukrainian Language for Professional Purposes

Post-requisites: The discipline «Clinical Anatomy and Operative Surgery» lays the groundwork for students to study Patomorphology, General Surgery, Propaedeutic of Internal Medicine, Propaedeutics of Pediatric.

The aim and tasks of the academic discipline:

- the aim of studying the academic discipline is to form a holistic view of the structure, form, mutual placement of organs in separate areas of the human body and understanding the principles, methods, and techniques of surgery;
- the main tasks of studying the discipline are the formation of a system of knowledge of professional skills and practical skills that form the basis of the future professional activity of a doctor.

Competences and learning outcomes in accordance with the academic and professional program, the formation of which is facilitated by the discipline (integral, general, special)

Integral:

Ability to solve complex problems, including those of a research and innovation nature in the field of medicine. Ability to continue learning with a high degree of autonomy.

General:

- Ability to abstract thinking, analysis and synthesis.
- Ability to learn and master modern knowledge.
- 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 informed decisions.

- Ability to work in a team.
- Ability to interpersonal interaction.
- Ability to use information and communication technologies.
- Ability to search, process and analyze information from various sources.

Special:

- Ability to establish a preliminary and clinical diagnosis of the disease.
- Ability to perform medical manipulations.
- Ability to develop and implement scientific and applied projects in the field of health care.
- Adherence to ethical principles when working with patients, their relatives, and laboratory animals.

Observance of professional and academic integrity, bearing responsibility for the reliability of the obtained scientific results.

Learning outcomes of the academic discipline:

Program learning outcomes, the achievement of which contributes to the discipline:

- Have thorough knowledge of the structure of professional activity. To be able to perform professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.
- Understanding and knowledge of fundamental and clinical biomedical sciences at a level sufficient for solving professional tasks in the field of health care.
- Specialized conceptual knowledge, which includes scientific achievements in the health care field and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems.
- Search for necessary information in professional literature databases and other sources, and analyze, evaluate and apply this information.
- Clearly and unambiguously convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists.
- Communicate freely in the state language and English, both orally and in writing, to discuss professional activities, research and projects. Use international Greek-Latin terms, abbreviations and clichés in professional oral and written communication.

Upon completing their study in the academic discipline, students must

know: topography and syntopy of human organs

be able to: demonstrate mastery of the technique of performing basic surgery on human and animal corpses

Thematic plan of lectures (by modules), specifying the basic issues, which are considered at the lecture

Seq. No.	Title of the topic	Number of hours
Module 1. Clinical anatomy and operative surgery of the head, neck, trunk and extremities		
1	**Introduction to Clinical Anatomy and Operative.** Introduction to clinical anatomy and operative surgery. Definition and tasks of clinical anatomy and operative surgery. History of the discipline. Methods of topographic-anatomical research. Classification of surgical operations. Surgical tools and primary surgical technique.	2
2	**Clinical anatomy and operative surgery of the brain and facial sections of the head.** Clinical anatomy and operative surgery of the brain and facial sections of the head. Brain meninges and meningeal spaces. Primary surgical treatment of skull wounds. Scheme of cranial topography. Trepanation of the skull. Anthrotomy. Clinical anatomy and operative surgery of areas of the facial part of the head. Borders, layered structure, vessels and nerves, cellular spaces of the lateral, deep and anterior areas of the face. Infiltration and conduction anesthesia on the face. Surgical treatment of maxillofacia compulsory l wounds. Operations in inflammatory and purulent processes of the face.	2
3	**Clinical anatomy and operative surgery of the neck.** Surgical anatomy of the neck. Neck fascia. Interfascial fissures and spaces. Neck organs. Operations on the neck organs.	2
4	**Clinical anatomy and operative surgery of thorax, pectoral cavity. Topographical anatomy of mediastinal space.** Clinical anatomy and operative surgery of the lungs and organs of the mediastinum, heart, and pericardium. Topographic anatomy of the chest wall. Mammary gland. Breast surgery. Anatomical and physiological features in childhood. Puncture of the pleura. Types of pneumothorax. Pneumothorax closing technique. Resection of ribs. Surgical access to the organs of the chest cavity - esophagus,	2

	lungs, heart. Pneumonectomy. Lobectomy. Resection of the lung segment. Surgery for wounds of the heart. Congenital and acquired heart defects, principles of their surgical. Aorto-coronary artery bypass grafting. Extracorporeal circulation. Heart transplantation.	
5	**Clinical anatomy and operative surgery of the anterior lateral wall of the abdomen.** Clinical anatomy and operative surgery of the anterior lateral wall of the abdomen and abdominal organs. Surgical access to abdominal organs. Classification of hernias. Hernia of the anterior-lateral wall of the abdomen. Inguinal area, inguinal canal and inguinal gap. Inguinal hernia surgery. Surgical treatment of congenital, impaired and sliding hernia. Topography of the femoral canal. Surgical anatomy and surgical treatment of femoral, umbilical hernias and hernias of the white line.	2
6	**Clinical anatomy and operative surgery of the abdominal organs.** Topography of the abdominal cavity. The relation of the peritoneum to the abdominal organs. Recesses, canals, sacs, sinuses of the abdominal cavity. Intestinal sutures. Resection of intestines. Types of anastomoses: "end-to-end", "end-to-side", "side-to-side".	2
	Total	12

Thematic plan of seminar classes by modules and content modules, specifying the basic issues, which are considered at the seminar class

There are no training programs for the seminars

Thematic plan of practical classes by modules and content modules, specifying the basic issues, which are considered at the practical class

Seq. No.	Title of the topic	Number of hours
Module 1. Clinical anatomy and operative surgery of the head, neck, trunk and extremities		
Semantic module 1. Introduction to Clinical Anatomy and Operative Surgery. Clinical anatomy and operative surgical surgery of the head and neck.		
1.	**Introduction to Clinical Anatomy and Operative Surgery.** Definition and tasks of clinical anatomy and operative surgical surgery. History of the discipline. Methods of topographic-anatomical research.	2

2.	**Primary surgical technique.** Classification of surgical operations. Surgical tools and stitching equipment. Technique of separation and tissues connection, principles of primary surgical treatment of wounds.	
3.	**Clinical anatomy and operative surgery of brain region of head.** Clinical anatomy and operative surgical surgery of areas of the brain department of the head. Brain meninges and meningeal spaces. Primary surgical treatment of skull wounds. Scheme of cranial topography. Trepanation of the skull. Anthrotomy.	2
4	**Clinical anatomy and operative surgery of facial region of head.** Clinical anatomy and operative surgery of areas of the facial part of the head.Borders, layered structure, vessels and nerves, cellular spaces of the lateral, deep and anterior areas of the face. Infiltration and conduction anesthesia on the face. Surgical treatment of maxillofacial wounds. Operations in inflammatory and purulent processes of the face.	2
5	**Clinical anatomy and operative surgery of neck areas** Clinical anatomy and operative surgery of neck areas. Fascias, cellular spaces of the neck. Vessels and nerves of the neck. Exposure and ligation of the external and common carotid arteries.	2
6	**Clinical anatomy and operative surgery of neck organs** Surgical anatomy of neck organs. Conicotomy. Cricoconicotomy, tracheotomy, tracheostomy. Operations on the thyroid gland. Access to the cervical part of the oesophagus.	
Semantic module 2. Clinical anatomy and operative surgery of a trunk		
7	**Clinical anatomy and operative surgery of the chest wall.** Topographic anatomy of the chest wall. Mammary gland. Operations on the mammary gland. Anatomical-physiological features of the area in childhood. Pleural puncture. Types of pneumothorax. Pneumothorax closure technique. Rib resection. Surgical approaches to the chest cavity organs - oesophagus, lungs, heart.	2
8	Topographic anatomy of the chest cavity. Topography of lungs and heart. Mediastinum. Pneumonectomy. Lobectomy. Resection of a lung segment. Operations for heart injuries. Congenital and acquired heart defects, principles of their surgical treatment. Aorto-coronary bypass. Extracorporeal circulation. Heart transplantation.	2
9	**Clinical anatomy and operative surgery of the anterior-lateral abdominal wall. Surgical anatomy and operative**	2

	treatment of abdominal hernias. Clinical anatomy and operative surgery of the anterior-lateral abdominal wall. Topographic anatomy of the anterior-lateral wall of the abdomen. Surgical access to abdominal organs. Classification of hernias. Hernia of the anterior-lateral wall of the abdomen. Inguinal area, inguinal canal and inguinal gap. Inguinal hernia surgery. Surgical treatment of congenital, impaired and sliding hernia. Topography of the femoral canal. Surgical anatomy and operative treatment of femoral, umbilical hernias and hernias of the white abdomen.	
10	**Clinical anatomy and operative surgery of the abdominal cavity. Intestinal sutures.** Topography of the abdominal cavity. The relation of the peritoneum to the abdominal organs. Recesses, canals, sacs, sinuses of the abdominal cavity. Intestinal sutures. Resection of intestines. Types of anastomoses: "end-to-end", "end-to-side", "side-to-side".	2
11	**Clinical anatomy of organs of upper floor of abdominal cavity. Stomach surgery. Operations on the liver, gallbladder, biliary tract.** Topographic anatomy of the stomach, liver, gallbladder, biliary tract. Stomach surgery: incision, suture, gastrostomy, gastroenterostomy, resection and organ-preserving surgery. Operations on the liver, gallbladder, biliary tract, pancreas.	2
12	**Clinical anatomy and operative surgery of intestine, pancreas and spleen. Resection of bowels. Operations on a colon. Appendectomy.** Topographic anatomy of the small and large intestine, pancreas and spleen. Operations on the colon. Appendectomy. Operations on the pancreas. Removal of the spleen. Laparoscopic surgery.	2
13	**Clinical anatomy and operative surgery of the lumbar region. Clinical anatomy and operative surgery of the spine, spinal cord and meninges.** Topography of the lumbar region and retroperitoneal space. Layers, fascias, cellular spaces. Lumbar triangle. Topography of the organs of the retroperitoneal space. Kidneys. Adrenal glands. Ureters. Paranephric blockade. Surgery on the kidneys and ureters. Topographic anatomy of the spine, spinal cord and meninges. Segmental structure of the spinal cord. Lumbar puncture. Congenital malformations of the spine. Opening of the spinal canal (laminectomy).	2
14	**Clinical anatomy and operative surgery of pelvis. Operations on the pelvic organs.** Topographic anatomy of the pelvis. Fascia and cellular	2

	expanses of the pelvis. Age and sexual characteristics of the anatomy of the pelvis. Puncture of the bladder. High incision of the bladder. Access to the prostate gland. Surgery for abscesses and fistulas of the rectum. Cesarean section. Ectopic pregnancy surgery. Surgery for testicles, cryptorchidism, phimosis and paraphimosis. Operations on the rectum with atresia of the anus.	
Semantic module 3. Clinical anatomy and operative surgery of extremities		
15	**Clinical anatomy and operative surgery of the upper extremity.** Clinical anatomy and operative surgery of the upper extremity. Ways of spreading purulent processes. Access to axillary, subclavian, humeral arteries. Sections with felon and phlegmons of the hand and forearm..	2
16	**Clinical anatomy and operative surgery of the lower extremity.** Clinical anatomy and operative surgery of the lower extremity. Ways of spreading purulent processes. Access to vessels and nerves at the lower extremity. Sections with phlegmon of the foot and crus.	2
17	*** Operations on the extremities.** Amputation and exarticulation at different levels of upper and lower extremities. Principles of joint puncture, arthrotomy, arthroplasty and arthrodesis. Principles of extra- and intramedullary osteosynthesis. Operations on tendons, vessels and nerves of extremities. Principles of operations on nerves: neurolysis, nerve suture, neurotomy, plastic and nerve movement. Sutures of tendons. Disobliterating operations on vessels. Microsurgical technique. Practical skills from module 1.	2
18	Final modular control	2
	Total	30

Note: mark as * the topics, for which a positive grade must be obligatorily given.

Self-directed work

Seq. No.	Title of the topic	Number of hours
1	**Preparation for practical classes -** *theoretical preparation and practical training*	17
2	**Elaboration of topics that are not included in the classroom lesson plan:** Endoscopic and robotic technique in surgery. The main stages of development of endoscopic surgery in Ukraine. Robotic surgery, its advantages. Principles of performing robotic operations. Prospects for the development of robotic	4

	surgery. Endovideosurgical operations on organs of the abdominal cavity. History of endovideosurgical treatment. Advantages of laparoscopic operations. The technique of endovideosurgical intervention. Fundamentals of transplantology. History of transplantology in Ukraine and the world. Organization of transplant assistance to the population in Ukraine. Donation in modern transplantology. Autotransplantation of organs and other anatomical materials. Xenotransplantation in modern medicine. Bioimplants in surgery. Transplantation of chest cavity organs. Heart transplantation. Lung transplantation. Transplantation of the cardiopulmonary complex. Transplantation of complicated tissue complexes. Transplantation of blood vessels and heart valves. Transplantation of organs of the abdominal cavity. Kidney transplantation. Liver transplantation. Transplantation of the pancreas. Transplantation of the islets of Langerhans. Bioprostheses in medicine.	3 4 4 4
3	***Preparation for final module control***	6
	Total	42

Individual tasks

The curriculum does not provide for the completion of individual tasks

The list of theoretical questions for students' preparation for the final module control

1. History of clinical anatomy. Content and objectives of the course.
2. Content and objectives of the course of operative surgery. Classification of surgical interventions.
3. Clinical anatomy of the mastoid process. Trepanation of the Chipault triangle. Age features.
4. Clinical anatomy of the parotideomasseteric region.
5. Arterial blood supply to the facial part of the head.
6. Topographical anatomy of the deep part of the face.
7. Venous systems of the craniocerebral and facial sections of the head, their connection.
8. Topographic anatomy of the trigeminal nerve.
9. Topographic anatomy of the fascial nerve.

10. Phlegmons of the face. Cuts in inflammatory processes on the face.

11. Primary surgical treatment of oral and maxillofacial wounds.

12. Principles of primary surgical treatment of craniocerebral wounds.

13. Trepanation of the skull.

14. Topographic anatomy of cellular spaces of the neck.

15. Topographical anatomy of the carotid triangle of the neck.

16. Topographic anatomy of the thyroid gland.

17. Topographic anatomy of the larynx.

18. Features of primary surgical treatment of neck wounds.

19. Operative access to carotid arteries in the carotid triangle.

20. Upper and lower tracheotomy.

21. Subtotal, subfacial strumectomy according to A. V. Nikolaev.

22. Principles and stages of surgical interventions on the chest wall. Topographic anatomy of the intercostal spaces.

23. Topographic anatomy of the mammary gland.

24. Topographic anatomy of the heart

25. Topographic anatomy of the lungs.

26. Mastitis and their operative treatment.

27. Operations with benign and malignant tumors of the mammary gland.

28. Rib resection.

29. Pneumothorax.

30. Principles of operations on the lungs - lung sewing, segmental resection, lobectomy, pulmonectomy.

31. Seam of the heart.

32. Surgical anatomy of congenital heart defects and large vessels. The principles of surgical treatment.

33. Endocoronary interventions. Coronary artery bypass grafting.

34. Topographical anatomy of the inner surface of the anterior abdominal wall.

35. Topographic anatomy of the inguinal canal. Sexual features of the inguinal channel and its contents.

36. Surgical anatomy of oblique, straight, sliding and congenital inguinal hernias.

37. Surgical anatomy of femoral hernia.

38. Surgical accesses to the organs of the abdominal cavity.

39. Operations involving direct inguinal hernia.

40. Surgery for oblique inguinal hernias.

41. Operations involving femoral hernia.

42. Operations involving umbilical hernia and white abdominal hernia.

43. Topographic anatomy of the peritoneum. The course of the peritoneum. Channels, sinuses and bags of the abdominal cavity, their practical significance.

44. Topographic anatomy of the stomach.

45. Topographic anatomy of the liver.
46. Topographic anatomy of the gall bladder and bile ducts
47. Topographic anatomy of the pancreas.
48. Topographic anatomy of the small intestine. Meckel diverticulum.
49. Topographic anatomy of the large intestine.
50. Theoretical foundations and techniques of intestinal sutures. Sewing intestinal wounds.
51. Resection of the intestine.
52. Appendectomy.
53. Principles of operations with sewing of a stomach.
54. Gastrostomy, species.
55. Gastroenterostomy. Types measures to prevent the formation of the wrong circle.
56. Principles of resection of the stomach, species, modifications.
57. Principles and types of vagotomy. Drainage operations.
58. Methods and techniques of cholecystectomy.
59. Topographic anatomy of the lumbar region.
60. Topographic anatomy of the kidney.
61. Topographic anatomy of the ureters.
62. Pyelotomy technique.
63. Clinical anatomy of the fronto-parieto-occipital region.
64. Nephrectomy technique.
65. Topographic anatomy of the pelvic diaphragm and urogenital diaphragm.
66. Topographic anatomy of the fascia and pelvic tissue spaces.
67. Topographic anatomy of the rectum. Surgical anatomy of malformations.
68. Topographic anatomy of the uterus.
69. High incision of the bladder.
70. Principles of surgery for hemorrhoids.
71. Principles of operations during paraproctitis.
72. Topographic anatomy of the spine.
73. Topographic anatomy of the scapular region.
74. Topographic anatomy of the axillary region (axillary fossa).
75. Topographic anatomy of the anterior forearm.
76. Topographic anatomy of the palmar surface of the hand.
77. Topographic anatomy of the sciatic region.
78. Topographic anatomy of the anterior region of the thigh.
79. Topographic anatomy of the popliteal fossa
80. Topographic anatomy of the anterior leg region.
81. Topographic anatomy of the posterior region of the lower leg.
82. Topographic anatomy of the foot area.
83. Puncture of the shoulder joint.

84. Principles of operations for phlegmon of the hand and forearm.
85. Principles of operations and methods of anesthesia for panaritium.
86. Surgical interventions for varicose veins of the lower limb.
87. Access to the axillary artery.
88. Access to the brachial artery on the different levels.
89. Access to the radial artery.
90. Access to the ulnar artery.
91. Access to the femoral artery on the thee levels.
92. Access to the popliteal artery.
93. Access to the anterior tibial artery.
94. Access to the posterior tibial artery on the thee levels.
95. Principles of limb amputation and disarticulation.
96. Bone-plastic amputation of the lower leg according to Pirogov.
97. Puncture of the knee joint.

The list of practical skills required for the final module control

1. Technique of venipuncture.
2. Technique of venesection.
3. Technique of ligation of the external carotid artery.
4. Technique of ligation of the common carotid artery.
5. Technique of tracheostomy.
6. Technique of execution of a vagosympathetic blockade according to O. V.Vishnevsky.
7. Technique of pleural puncture.
8. Technique of herniation by the method of Spasokukotsky-Girard.
9. Technique of removal of the hernia according to Bassini.
10. Technique of removal of the hernia according to Martynov's.
11. Technique of appendectomy.
12. Technique of cholecystostomy.
13. Technique of anterior gastrointestinal anastomosis.
14. Technique of posterior gastrointestinal anastomosis.
15. Technique of intestinal anastomosis "side-to-side".
16. Technique of intestinal anastomosis "end to end".
17. Technique of gastrostomy by Witsel.
18. Technique of gastrostomy for Kader.
19. Technique of gastrostomy at Toprover.
20. Technique of sewing of a wound of a stomach.
21. Technique of sewing the wound of the small intestine.
22. Technique of sewing the wounds of the colon.
23. Kuznetsov-Pensky's suture technique.
24. Technique for performing a puncture of the bladder.

25. Technique for performing bladder catheterization.
26. Technique for performing puncture of the hip joint.
27. Technique for performing knee puncture.
28. Technique of execution of a puncture of an ankle joint.
29. Technique of performing puncture of the elbow joint.
30. Technique for performing puncture of the shoulder joint.
31. Technique of performing puncture of the wrist joint.
32. Ligation of the axillary artery.
33. Ligation of the subclavian artery.
34. Ligation of the brachial artery.
35. Ligation of the radial artery.
36. Ligation of the ulnar artery.
37. Ligation of the femoral artery.
38. Bandaging of the popliteal artery.
39. Ligation of the anterior tibial artery.
40. Ligation of the posterior tibial artery.

Teaching methods

- verbal (lecture, lecture with planned mistakes, lecture «press-conference», problem lecture, explanation, story, conversation, briefing);
- visual (lecture-visualization, observation, illustration, demonstration);
- practical (different types of management, practice);
- reproductive (performing different kinds of tasks according to the sample, performing of surgical manipulations and conducting of training operations on bio-simulators);
- methods of applying knowledge and acquiring and consolidating skills and abilities (role and business games, project method, method of modeling professional situations, holding «round tables», case method).

Control methods

- oral control;
- written control;
- test control;
- programmable control;
- practical verification;
- self-control;
- self-esteem.

The form of final control of academic performance- Final modular control (FMC)

The system of continuous and final control

Continuous control is carried out during each practical lesson and it aims to check the level of students' preparation to the performing of particular work.

Monitoring of continuous control during the lesson includes: computer tests, solving of situational tasks, control of the practical skills and knowledge of topographic-anatomic preparations with the further analysis and assessment of gender, age, individual features of the structure of human organs; analysis of topographic-anatomic relationships of human organs and systems, options for variability of organs, malformations.

At each practical lesson, student answers the tests of the topic of the lesson, solves typical tasks that are created with material from current and previous topics, knowledge of which is necessary to understand the current topic. Student answers the questions of the lecture course and ones from self-directed work, which relate to the material of the current lesson. Student demonstrates the level of mastery of practical skills in accordance with the topic of the lesson.

The lecturer in the practical lesson assesses the knowledge of each student on a four-point scale in accordance with table 1:

Table 1

Standardized generalized criteria for assessing of the level of the knowledge of students of PSMU

In accordance with four-point scale	Mark in accordance with ECTS score	Criteria of assessment
5 (excellent)	A	A student has special creative abilities, is able to receive knowledge independently, find and work with necessary information without teacher's help, is able to use acquired knowledge and skills for making decision in non-standard situations, argues the answers convincingly, reveals own talents, masters knowledge in a volume not less than 90% of topic during the questioning and all kinds of control.
4 (well)	B	A student owns studied amount of material fluently, uses it in practice, solves tasks and tests in standard situations fluently, corrects mistakes independently, amount of mistakes is not large, owns knowledge in a volume not less than 85% of topic during the questioning and all kinds of control.
	C	A student compares, summarizes, systematizes information with teacher's help, in general uses it in practice independently, controls own activity; corrects mistakes, some of them can be essential, finds arguments to support opinions, owns knowledge in a volume not less than 75% of topic during the questioning and all kinds of control.
3(satisfactorily)	D	A student reproduces a significant part of theoretical material, shows knowledge and understanding of the basic questions, analyzes studied material with teacher's help, corrects mistakes, many of them are

		essential, owns knowledge in a volume not less than 65% of topic during the questioning and all kinds of control.
	E	A student owns studied material on the level higher then initial, a significant part of it reproduces at the reproductive level, owns knowledge in a volume not less than 60% of topic during the questioning and all kinds of control.
2(unsatisfactorily)	FX	A student owns studied material on the level of separate fragments that are an insignificant part of material, owns knowledge in a volume less than 60% of topic during the questioning and all kinds of control.
	F	A student owns studied material on the level of the elementary recognition and reproduction of separate facts, owns knowledge in a volume less than 60% of topic during the questioning and all kinds of control.

At the last practical lesson of the credit module the average score for current success is translated into scores in accordance with table 2:

Table 2

Unified table of accordance with points for current success, points for FMC, exam and traditional four-point assessment

Average points for current success (A)	Points for current success of the module (A * 24)	Points for FMC of the module (A*16)	Points for module and/or exam (A*24 + A*16)	Category ECTS	In accordance with four-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		
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	**C**	**4 well**
3,8	91	61	152		
3,85	92	62	154		
3,9	94	62	156		
3,95	95	63	158		
4	96	64	160		
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	**B**	
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		

The final module control is carried out at the last session of the credit module. The final module control is allowed students who have received minimum amount of points during continuous module (average point of success is 3 and higher), do not have uncompleted missed practical or lecture lessons, fulfilled all requirements of the curriculum. The result of the final module control is evaluated in points (the traditional 4-point score is not given). The maximum score of the total module control is 80 points. The minimum score of the total modular control with which the control is considered to be folded is 50 points. The maximum number of points per module is 200 points (120 points of it are current success). The questions submitted to FMC are created in such way, that reference answer of student to each of them lasts approximately 3-5 minutes. The questions cover the most important sections of the working curriculum, which are significantly covered in the literature sources are recommended as the main (basic) ones in the study of the discipline. Examination tickets for FMC are formed on these questions and ones are approved at the meeting of the department. Each ticket consists of three questions, each correct answer of them estimates from 0 to 27 points. In case of violation by student of the rules of academic integrity (p. 2.2.5 Of the Rules of Procedure) during the passing of FMC the student is received a grade of «unsatisfactorily».

Students who attend the module with an average grade point average of 4.50 to 5.0 are exempted from passing the FMC and automatically (with consent) receive a final grade according to «Unified table of accordance with points for current success, points for FMC, exam and traditional four-point assessment» (table 2). In case of disagreement with their point, this category of students passes FMC according to the general rules.

The points obtained for the module are presented by the teacher in the "Statement of final module control" and the individual curriculum of the student. Information about students which do not pass FMC with exact reasons of it also is presented in the "Statement of final module control" and the individual curriculum of the student.

The student has the right to take and 2 opportunities to retake FMC. In exceptional cases, additional retaking of FMC may be carried out with the personal permission of Rector or First Vice-Rector for Academic Affairs and Research.

Criteria for assessing students' knowledge at the FMC:

The maximum number of points that can be obtained for the answer to the first question of the FMC ticket is 26, the second and thirst questions – 27.

«24-27 points» – the student has at least 90% knowledge of the subject during both the survey and the test control. Well-versed in subject terminology. It clearly states the answers to the questions asked. Practical work is carried out in full;

«20-23 points» - student has knowledge of at least 75-89%, makes minor mistakes, which he corrects when answering questions. The test answers 75% of the questions. Practical work is carried out in its entirety, minor errors are allowed;

«17-19 points» – the student has at least 60–74% knowledge of the topic, answering at least 60% of the questions during the test. The answers are not accurate enough, the guidance questions do not correct them. Practical work has not been completed in full;

«0-16 points» –the student has not acquired the required minimum of knowledge in the subject of employment and testing within 59%. Unable to answer the guiding questions, operates with inaccurate wording. Test control tasks were completed by less than 59%. He has no practical skills.

The discipline grade is given by the department on the traditional (national) 4-point scale based on the total amount of student' current success and point is received with FMC. The scale for translating the general number of points into the traditional assessment on a 4-point scale of disciplines and for all departments is uniform (according to the table 2).

The discipline score does not convert from the ECTS score.

The assessment of the discipline is given to the student no later than the next working day after the final module control. The course grade is given only if module is enrolled.

If the student does not pass final module control before the beginning of the new semester, he/she will receive for the discipline the traditional grade of "2" and the ECTS grade of "F", which is the basis for the student's exclude.

Methodological support

1. Working curriculum
2. Methodical development of lectures
3. Guidelines for teachers
4. Methodical instructions for independent work of students during the preparation for practical training and at the class
5. List of recommended literature
6. Materials for control of students' knowledge, and skills:
- tests of different levels of difficulty
- situational tasks
- computer control programs
7. Videos
8. Multimedia presentations
9. Syllabus

Recommended reading

Basic (available at the library of PSMU)

1. Tsyhykalo O.V. Topographic Anatomy and Operative Surgery / O.V.Tsyhykalo. – Vinnytsia, 2011. – 528 p.
2. Danilchenko S.I. Methodical Instruction For the 2-3st year students'of medical faculty self - preparation work (at class and at home) in studying operative surgery and

toographical anatomy. M. 1-2 / S.I.Danilchenko, E.N.Pronina, O.Yu.Polovik [et al.]. – Poltava, 2010.

Supplementary:

1. Netter F. H. Atlas of Human Anatomy / Frank H.Netter. – East Hannover, New Jersey, 1990. – 592 p.
2. Hnatyuk M.S. Operative surgery and topographical anatomy (lectures) / M.S.Hnatyuk, O.B.Slabuj. – Temopil, 2004. – 212 p.
3. Bernard C. Illustrated Manual of Operative Surgery and Surgical Anatomy / C.Bernard – 1991.-330 p.

Information resources

1. Полтавський державний медичний університет. Кафедра клінічної анатомії і оперативної хірургії. Здобувачу [Електронний ресурс]. – Режим доступу: https://klanatomy.pdmu.edu.ua/resources. - Назва з екрана.
2. Booksmed. Книги и учебники по хирургии [Електронний ресурс]. – Режим доступу: http://www.booksmed.com/hirurgiya/. – Назва з екрана.
3. Google книги [Електронний ресурс]. – Режим доступу: http://books.google.com.ua/books/. – Назва з екрана.
4. Европейский медицинский центр. Хирургия головы и шеи в ЕМС [Електронний ресурс] / Европейский медицинский центр // Youtube. – Режим доступу: http ://www. youtube.com/watch?v=W7cKkGwS5Ug. – Назва з екрана. – Дата публікації: 14.06.2012. – Дата перегляду: 1.03.17.
5. Клиническая онкология. Специализированное медицинское интернет-издание для врачей, провизоров, фармацевтов, студентов медицинских и фармацетических вузов [Електронний ресурс]. – Режим доступу: http://www.clinicaloncology.com.ua/article/48l/rekonstruktivno-vosstanovitelnve-operacii-v-xirurgii-mestno-rasprostranennvx-zlokachestvennvx-opuxolei-golow-i-shei**.** - Назва з екрана.
6. Kenhub [Електронний ресурс]. – Режим доступу: https://www.kenhub.com - Назва з екрана.
7. Gavitex [Електронний ресурс]. – Режим доступу: http://gavitex.com/share/m6i5y8rq4. – Назва з екрана.
8. MEDUNIVER БИБЛИОТЕКА [Електронний ресурс]. – Режим доступу: http://meduniver.com/Medical/Book/4.html. – Назва з екрана.

Developer (developers)

Doctor of Biology, prof. Bilash S.M.