

## **Syllabus of the General Surgery discipline**

### **INTERNATIONAL HIGHER SCHOOL OF MEDICINE**

#### **Department of surgical diseases**

#### **SYLLABUS**

##### **General Surgery**

2024-2025 academic year

for students of medical faculty,

3rd semester for studying this discipline 2 credits (72 hours) ,

form of control: oral and written survey, reports/presentations, control of practical skills, situational tasks, testing

#### **Information about the teacher:**

##### **Lecture**

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The Syllabus is considered  
at the meeting of the department of Surgical diseases

Protocol №\_\_\_\_\_dated\_\_\_\_\_2024

Head of the department \_\_\_\_\_ Ermekov T.A

#### **2. Brief description of the course.**

##### **2.1 Purpose of the course and the expected result of studying the discipline.**

**The main goal of the course** is to develop the competencies of foreign students in the specialty "General Surgery", to study the theoretical foundations and practical skills of propaedeutic

surgery, to train a specialist for the initial examination of a surgical patient, to provide first aid as part of the duties of a doctor in the specialty "Medical Care" with English as the language of instruction.

**As a result of studying the discipline, the student must:**

**Know:**

- A chart of the patient's medical history that defines the sequence of examination of the patient using physical, clinical, laboratory, functional, and instrumental methods.
- Goals and objectives, principles and methods of asepsis and antiseptics in surgery;
- A set of methods and techniques of work aimed at preventing infection in the wound, in the patient's body, creating microbial-free, sterile conditions for surgical work;
- A system of measures aimed at destroying microorganisms in the wound, pathological focus, organs and tissues, as well as in the patient's body as a whole;
- Regularities of functioning of individual organs and systems, mechanisms of development of the main symptoms and syndromes, as well as methods of their detection.

**Be able to:**

- Collect the necessary information, carefully and competently describe all sections of the "student" medical history, recording all the necessary data reflecting the course of clinical thinking in the process of making a diagnosis and choosing treatment tactics;
- Choose and apply various methods of asepsis and antiseptics according to the goals and objectives of professional activity;
- Identify the main symptoms by physical examination methods and group them into syndromes based on knowledge of anatomical and physiological features and patterns of functioning of organs and systems.

**Possess:**

- Practical skills in collecting patient complaints, medical history data, and performing a physical examination in accordance with the patient's bedside medical history scheme;
- Skills in determining the purpose of medical devices, their scope of application, and the algorithm of their use in providing medical care;
- Skills of physical examination of patients aimed at identifying the main pathological symptoms and syndromes in order to reliably diagnose diseases.

**2.2 Prerequisites:**

- Macro-and microanatomy
- Latin language
- Normal physiology
- Biochemistry

**2.3 Post-requisites:**

- Therapeutic and special-clinical disciplines
- Obstetric and gynecological disciplines
- Surgical disciplines
- Pediatric disciplines
- Traumatological disciplines
- Anaesthetic and resuscitation disciplines

### **3. Calendar and thematic plan.**

*Table №1.*

**Discipline study plan  
Thematic plan of lectures**

<i>№</i>	<b>Unit name</b>	<b>Topic of the lecture</b>	<b>Study intensity (hour)</b>	<b>Date</b>
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1	General questions of surgery	L 1: Introduction to the subject. History of surgery. Development of surgery in Kyrgyzstan. Organization of surgical care.	2	
		L 2: Modern antiseptics, aseptics	2	
		L 3: Bleeding. Definition. Classification. The body's response to bleeding, Classification of blood loss. Spontaneous hemostasis. Blood transfusion, Blood types. Blood components and blood substitutes.	2	
	Total:		6	
2	Stages of treatment of a surgical patient	L 4: Surgical deontology. Examination of surgical patients. Medical history of a surgical patient.	2	
		L 5: Surgical operations (types, accesses, stages).	2	
		L 6: Preoperative period and postoperative period	2	
	Total:		6	
Total			12	

**Table №2**

### Thematic plan of practical classes

№	Name of the unit	Subject of PC	Forms of control		Labor intensity (hour)	Date
			Current	Midterm		
1	General issues of surgery	PC1: Antiseptics. Definition. Types (mechanical, physico-chemical, biological) of antiseptic compounds.	Oral and written survey Report / presentation		2	
		PC 2: Asepsis, definition, types. Organization of the operation of the surgical department and operating unit. Treatment of the surgeon's hands, treatment of the surgical field. Sterilization.	Oral and written survey Report / presentation		2	

		PC 3: Desmurgy, classification, basic rules of dressing	Oral and written survey Report/presentation		2	
		PC 4: Clinical picture of bleeding. Diagnosis of internal bleeding. Self-stop of bleeding. Methods of temporary and final stopping of bleeding. Mechanical, thermal, chemical, and biological methods of stopping bleeding. Risks and outcomes of bleeding.	Oral and written survey Report / presentation		4	
		PC 5: Determination of blood groups using standard ABO sera and standard red blood cells. Determination of the Rh factor. Transfusion of blood and blood substitutes. Indications and contraindications for blood transfusion. Autohemotransfusion. Reinfusion of blood. The concept of donors and recipients. Control unit №1		Oral survey Situational tasks Test questions	2	
	Total:				12	
2	Stages of treatment of a surgical patient	PC 6: Surgical deontology. Examination of surgical patients.	Oral and written survey Report / presentation		2	
		PC 7: Medical history of a surgical patient.	Oral and written survey Report / presentation		2	

		PC 8: Surgical operations (types, accesses, stages). Local anesthesia. Indications and contraindications for the use of local anesthesia. Surface anesthesia, local infiltration anesthesia according to A.Vishnevsky (technique of execution). Conducting anesthesia, novocaine blockade. Epidural and spinal anesthesia. Indications and contraindications. Complications.	Oral and written survey Report / presentation		4	
		PC 9: Preoperative and postoperative period	Oral and written survey Report/presentation		2	
		PC 10: Unit control # 2		Oral survey Situational tasks Test questions	2	
	Total:				12	
	Total				24	

#### 4. Schedule of independent work of students.

**Table №3**  
**Thematic plan for independent work**

#	Unit name	IWS subject	Control forms		Study intensity (hour)	Deadlines
			Current	Midterm		
1	General questions of surgery	IWS 1: Basic methods of using antiseptics	Oral and written survey Review of notes		2	

		IWS 2: Control of microflora on the routes of airborne infection. Control of microflora at the stages of contact infection of the wound. Prevention of implantation infection of wounds.	Oral and written survey Review of notes		2	
		IWS3: Sterility control. Direct and indirect methods of control.	Oral and written survey Review of notes		2	
		IWS 4: Types of bandages for individual areas of the body. Dressings.	Oral and written survey Review of notes		4	
		IWS Donation, other blood sources. Autoblood.	Oral and written survey Review of notes		2	
		IWS Transfusion media, blood preservation, storage and expiration date determination	Oral and written survey Review of notes		2	
		IWS : Modern principles of bleeding treatment. Safe hemodilution boundaries. Transportation of patients with bleeding. recipients. Unit control №1	Oral and written survey Review of notes	Oral survey Situational tasks Test questions	4	
	Total:				18	
2	Stages of treatment of a surgical patient	IWS : Deontology in surgery. Structure of the surgical service.	Oral and written survey Review of notes		2	

		IWS Selection of anesthesia in surgery. Combined methods of anesthesia.	Oral and written survey Review of notes		2	
		IWS Main types of surgical operations	Oral and written survey Review of notes		2	
		IWS: Basic actions that prepare the patient for surgery	Oral and written survey Review of notes		2	
		IWS: General clinical examination methods	Oral and written survey Review of notes		2	
		S IWS: special examination methods	Oral and written survey Review of notes		2	
		IWS: Epicrisis	Oral and written survey Review of notes		2	
		IWS: Prevention of postoperative complications.	Oral and written survey Review of notes		2	
		IWS: Immediate and long-term postoperative period	Oral and written survey Review of notes		2	
	Total:				<b>18</b>	
	Total				<b>36</b>	

## 5. Literature

### Basic:

1. Christopher Ellison , Gilbert R. Upchurch Jr. MD, et al. (2023). Fischer's Mastery of Surgery

2. Mary T. Hawn (2022). Operative Techniques in Surgery
3. JUSTIN B DIMICK , GILBERT R. UPCHURCH JR, et al (2024). Clinical Scenarios in Surgery: Decision Making and Operative Technique
4. Salvatore Docimo Jr. and Eric M. Pauli (2019). Clinical Algorithms in General Surgery: A Practical Guide
5. Carol E. H. Scott-Conner, Andreas M. Kaiser, et al. (2022). Chassin's Operative Strategy in General Surgery: An Expositive Atlas
6. Kellie R. Brown M.D. (2023). Operative Techniques in Vascular Surgery
7. Courtney M. Townsend Jr. JR MD (2021). Sabiston Textbook of Surgery: The Biological Basis of Modern Surgical Practice
8. Sabiston Textbook of Surgery: The Biological Basis of Modern Surgical Practice
9. Robert M. Zollinger , E. Christopher Ellison, et al. (2021). Zollinger's Atlas of Surgical Operations
10. Justin B. Dimick MD (2021). Mulholland & Greenfield's Surgery: Scientific Principles and Practice

## **Secondary:**

11. Schaefer G, Regier D, Stout C. Palliative Emergency General Surgery. Surg Clin North Am. 2023 Dec;103(6):1283-1296. doi: 10.1016/j.suc.2023.06.005. Epub 2023 Jul 24. PMID: 37838468.
12. Mao RD, Williams TP, Price A, Colvill KM, Cummins CB, Radhakrishnan RS. Predicting General Surgery Match Outcomes Using Standardized Ranking Metrics. J Surg Res. 2023 Mar;283:817-823. doi: 10.1016/j.jss.2022.11.038. Epub 2022 Dec 5. PMID: 36915008.
13. Trauma Surgery. J Oral Maxillofac Surg. 2023 Nov;81(11S):E147-E194. doi: 10.1016/j.joms.2023.06.028. PMID: 37833022.
14. Van Bruwaene S. Surgical safety. World J Urol. 2020 Jun;38(6):1349-1350. doi: 10.1007/s00345-020-03249-1. PMID: 32415364; PMCID: PMC7227171.
15. Sokas C, Hu F, Edelen M, Sisodia R, Pusic A, Cooper Z. A Review of PROM Implementation in Surgical Practice. Ann Surg. 2022 Jan 1;275(1):85-90. doi: 10.1097/SLA.0000000000005029. PMID: 34183512.
16. Plath W, McCulloch P. Quality and safety interventions in surgery. Br J Hosp Med (Lond). 2023 Sep 2;84(9):1-4. doi: 10.12968/hmed.2023.0180. Epub 2023 Sep 13. PMID: 37769265.
17. Shkolyar E, Pugh C, Liao JC. Laying the Groundwork for Optimized Surgical Feedback. JAMA Netw Open. 2023 Jun 1;6(6):e2320465. doi: 10.1001/jamanetworkopen.2023.20465. PMID: 37378988.
18. Rocha MC, Costa RAD, Utiyama EM. Resource management strategies for prioritizing non-scheduled surgical procedures in a tertiary public hospital. Clinics (Sao Paulo). 2024 Aug 29;79:100482. doi: 10.1016/j.clinsp.2024.100482. PMID: 39213802; PMCID: PMC11402110.
19. Ricketts D, O'Brien A, Patterson M, Phadnis J. Establishing the shadowline: the border between legally acceptable and unacceptable standards of surgical practice. Ann R Coll Surg Engl. 2021 Sep;103(8):553-560. doi: 10.1308/rcsann.2021.0243. PMID: 34464555; PMCID: PMC10334987.
20. Bryan DS, Rogers SO. Capacity Assessment in Emergency Surgery. J Clin Ethics. 2023 Fall;34(3):270-272. doi: 10.1086/726817. PMID: 37831650.

## **6. Evaluation policy and procedure for all types of work**



Fund of assessment tools for intermediate certification in the EMC (Anesthesiology, Intensive Care, Emergency Conditions, 10 semester).

Evaluation procedures and criteria:

Assessment of student's academic achievements in all types of control (current control of academic performance and intermediate certification) is carried out according to the point-rating system.

During the period of studying the discipline, the student gains points according to the corresponding parameters (per unit):

- a. Current control – 40
- b. IWS-20
- c. Midterm control (module) - 40

Total of 100 points (40+20+40)

For violations of the conduct policy, the total score in the discipline is reduced to a maximum of 10 points.

The final grade for mastering the discipline is entered in the statement and credit book.

**Table №4**

**Student achievement assessment system**

Criteria for grading a discipline				
Maximum score	Intervals			
	"failure"	"success"	"good"	"excellent"
Current monitoring–40	0-23	24-30	31-35	36-40
Criteria for intervals	Given for poor assimilation of the material. An unsatisfactory answer shows that the student is familiar with the educational material, but does not highlight the main points, makes significant mistakes that distort the meaning of what he has learned. He transmits information that he has memorized from the words of the teacher or from the textbook, but which is not logically processed in his mind, is not included in the system of scientific propositions and arguments.	Given if the student correctly applies specific terminology, knows the main, essential provisions of the educational material, but does not know how to explain them, and makes some mistakes and inaccuracies in the content of knowledge and the form of constructing the answer.	Given for the correct assimilation of the program material, but the answer may contain inaccuracies and minor errors, both in the content and in the form of constructing the answer.	Given for a deep understanding of the educational material, for the ability to independently explain the studied provisions, for a logical correctly constructed answer, when the student does not make mistakes and is able to integrate the acquired knowledge with knowledge in related academic disciplines.
IWS– 20	0-11	12-15	16-17	18-20

Criteria for intervals	Given if the student did not complete the task, makes gross mistakes when answering the teacher's questions, or there are no ready-made diagrams, tables, or essays.	Given if the student finds it difficult to answer, makes mistakes and inaccuracies in ready-made diagrams, tables, and essays.	Given for the correct assimilation of the program material, but the answer may contain inaccuracies and minor errors, such as both in the content and in the form of building ready-made diagrams, tables, and abstracts.	Given for a deep understanding of the educational material, for the ability to independently explain the studied provisions, for a logically correctly constructed answer, when the student does not make mistakes and is able to integrate the acquired knowledge with knowledge in related academic disciplines.
Midterm control (module)–40	0-23	24-30	31-35	36-40
Interval criteria	Significant gaps in knowledge of the main educational material were identified, fundamental errors were made in answering the questions	Knowledge of the educational material to the extent necessary for further development of the discipline, familiarity with the main literature recommended for the lesson. The student makes mistakes, but has the necessary knowledge to eliminate them under the guidance of the teacher	Full knowledge of the educational material, the main literature recommended for the lesson. The student shows the systematic nature of knowledge in the discipline and is able to independently replenish and update in the course of further academic work and professional activity	A comprehensive, systematic and in-depth knowledge of educational material, basic and additional literature, the relationship of the main concepts of the discipline in their meaning for the acquired profession.

#### 6.1. Student Conduct Policy: (lateness, skipping classes, behavior in the classroom, delayed

### **submission of assignments).**

- Be punctual and complete tasks.
- Be sure to attend classes.
- Avoid skipping classes for disrespectful reasons.
- Come to classes in a clean medical gown.
- Exclude cell phone conversations in class.
- Actively participate in the learning process.
- Complete your homework on time.
- Work out missed classes at the time set by the teacher.

For violations of the Conduct Policy, total discipline points can be reduced to 5 points.

### **6.2. Academic Ethics Policy.**

- Be tolerant, respect the opinions of others.
- Formulate your objections in the correct form.
- Constructively maintain feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: no references when using printed and electronic materials, quotes, thoughts, and works of other authors or students.
- It is not allowed to prompt or cheat during tests, exams, or classes, passing an exam for another student, unauthorized copying of materials.

For violations of the Academic Ethics Policy, the total points for the discipline can be reduced to 5 points.

## **7. Guidelines for unit classes**

### **7.1. Unit 1. General issues of surgery.**

**PC 1: Antiseptics. Definition. Types (mechanical, physico-chemical, biological) of antiseptic compounds.**

1. What are the goals of modern antiseptics?
2. Are the antiseptics of the oxidizer group?
3. What methods are related to physical antiseptics?
4. Which of the manipulations can be attributed to chemical antiseptics?
5. What types of therapeutic effects on a purulent wound can be attributed to mechanical antiseptics?

**PC 2: Asepsis, definition, types. Organization of the work of the surgical department and the operating unit. The treatment of the surgeon's hands, the treatment of the surgical field. Sterilization.**

6. How is the surgical material (gowns, masks, bandages) sterilized?
7. Which area of the room of the operating unit is not there?
8. With a direct method of controlling the sterility of the dressing material and linen, is it used?
9. Specify the operating mode of the air sterilizer (dry-burning cabinet) for sterilization of instruments?

**PC 3: Desmurgy, classification, basic rules of dressing**

10. What is the dressing material used to make bandages?
11. What are the requirements for the primary dressing?
12. Classification of bandages according to the method of fixation of the dressing material?
13. The requirements for the dressing material include everything except?

**PC 4: The clinical picture of bleeding. Diagnosis of internal bleeding. Self-stop bleeding. Methods of temporary and final stop of bleeding. Mechanical, thermal, chemical, biological methods of stopping bleeding. The dangers and outcomes of bleeding.**

14. Give the most complete correct answer. Bleeding is an outpouring of blood (to where)?
15. The methods of temporary stopping bleeding include everything except?
16. What are the main groups of ways to stop bleeding?
17. What is the method of final hemostasis in case of aortic injury?
18. Specify the method of final hemostasis in case of deep rupture of the spleen, hemoperitoneum?
19. Vascular suture for hemostasis is applied when what is damaged?

**PC 5: Determination of blood groups using standard serums of the ABO system and standard erythrocytes. Determination of the Rh factor. Transfusion of blood and blood substitutes. Indications and contraindications for blood transfusion. Autohemotransfusion. Reinfusion of blood. The concept of donors and recipients.**

20. Specify the content of agglutinogens in erythrocytes in a patient with blood group 0 (I)?
21. How many times is a compatibility test performed with repeated blood transfusions?
22. What are the values of antigens and antibodies in the ABO system in transfusiological practice?
23. There is no agglutination when determining the blood type with the help of coliclones. What is the blood type?
24. When determining the blood group with the help of coliclones, agglutination with coliclone A. What is the blood group?

**7.2. Unit 2. Stages of treatment of a surgical patient.**

**PC 6: Surgical deontology. Examination of surgical patients.**

25. What are the basic concepts of surgical ethics and deontology?
26. Stages of the algorithm of examination of surgical patients in emergency situations?
27. What are the three main problems that the examination of a surgical patient is aimed at solving?

**PC 7: The medical history of a surgical patient.**

28. Display the main sections of the medical history?
- What is the procedure for compiling a curation diary?

**PC 8: Surgical operations (types, accesses, stages). Local anesthesia. Indications and contraindications for the use of local anesthesia. Surface anesthesia, local infiltration anesthesia according to A. Vishnevsky (technique of execution). Conduction anesthesia, novocaine blockade. Epidural and spinal anesthesia. Indications and contraindications. Complications.**

29. The stages of surgical intervention include everything except?
30. According to the purpose of performing surgical interventions, they are divided into?
31. The operation, the purpose of which is the complete cure of the patient from the disease, is called?
32. Under what anesthesia does the anesthetic act on the nerve endings?
33. What anesthetics and in what concentration are used for surface anesthesia?

34. Determine the causes of complications with local anesthesia?
35. What are the features of local anesthesia?
36. What does not apply to conduction anesthesia?
37. Which local anesthetics are not used for epidural anesthesia?
38. What type of anesthesia does peridural anesthesia belong to?
39. What is the concentration of novocaine used in anesthesia according to A.V. Vishnevsky?

**PC 9: Preoperative and postoperative period**

40. What are the stages of the preoperative period?
41. The diagnostic stage of the preoperative period includes everything except?
42. Define the postoperative period?
43. What are the stages of the postoperative period?

**PC10: control of unit 2.**

**8. Guidelines for performing independent work of student in the discipline  
with an indication of the deadlines of submission**

Specify the algorithm for performing independent work.