



Syllabus on the Discipline « Simulation education on Surgery »

1. General information	
Faculty	Medical Faculty
Educational program <i>(field, specialty, level of higher education, form of education)</i>	22 Health care Specialty 222 "Medicine" second (master's) level of higher education, full-time
Academic year	2023 - 2024
Name of discipline, code <i>(internet)</i>	Surgery, Choice block 2.11 https://new.meduniv.lviv.ua/kafedry/kafedra-hirurgiyi-1/
Department <i>(name, address, phone, e-mail)</i>	Surgery №1, 79010, Lviv, Yu. Roofa str., 4, Kaf_surgery_1@meduniv.lviv.ua
Head of the Department <i>(e-mail)</i>	Lukavetskyi Oleksiy Vasyliovych, MD, PhD, DSc (in Medicine), Professor, Kaf_surgery_1@meduniv.lviv.ua
Year of study	6 year
Semester	11, 12
Type of discipline <i>(obligatory / by choice)</i>	Obligatory
Teachers	Professor, MD, PhD, DSc Vasyl Kolomytsev vasyl.kolomytsev@gmail.com Assoc. Professor MD, PhD Volodymyr Khomyak khomyak@gmail.com Assoc. Professor MD, PhD Orest Chemerys orestchemerys@gmail.com Assoc. Prof. MD, PhD Ihor Stojanovsky dr_stojanovsky@meta.ua Ass. Prof. MD, PhD Volodymyr Marina marinavolodia@ukr.net Ass. Prof. MD, PhD Jaroslav Pavlovsky pavl_jarik@ymail.com
Erasmus yes/no	no
The person responsible for the syllabus	Lukavetskyi Oleksiy Vasyliovych, MD, PhD, DSc (in Medicine), Professor, Kaf_surgery_1@meduniv.lviv.ua
ECTS credits	2,0
Number of hours <i>(lectures / practical classes / independent work of students)</i>	- /35/25
Language of instruction	Ukrainian / English
Information for consultation	According to the schedule
Clinical Base	LNMU, Dept. of Surgery №1, 79010, Lviv, Yu. Roofa str., 4, Kaf_surgery_1@meduniv.lviv.ua Lviv, CHospital «LOCL», Yu. Roofa str., 4
2. Brief review of the subject	

Work program of educational discipline "Simulation education on surgery" formed in according to Standard of high education of Ukraine of second (masters) level of knowledge branch 22 "Health Care" of specialty 222 "Medicine" of educational qualification "Master of medicine".

"Simulation education on surgery" provides an opportunity for students of the medical faculty in the 6th year of study to acquire knowledge, skills and practical skills that enable the specialist to quickly and correctly navigate situations when patients have surgical pathology. Mastery of the discipline is based on knowledge acquired by students in the process of studying other basic subjects. When mastering the discipline, it is rational to introduce into the educational process modern world developments and standards on the main issues of surgery with wide use of means of complex practical-oriented training.

Types of educational activities of students according to the curriculum are: practical classes, students' self-training work (SSW), in the organization of which a significant role is played by consultations of teachers.

Thematic plans of practical classes, SSW ensure the implementation in the educational process of all topics that are part of the units. Practical classes include supervision of patients actor, examination of patients with surgical pathology, study of the functional state of vital organs and systems of patients, practical application of surgical methods of diagnosis and treatment, solving clinical situational problems and tests, mastering the elements of medical equipment on patients and models in university training center, mastering operative skills, techniques during surgery and work in the dressing room.

Classes, as recommended by the typical program, should be conducted at the university training center in small groups of students (4-6 persons). The results of examination of the patients actor or simulation mannequin, accuracy of the diagnosis, efficiency of treatment should be discussed by group (subgroup) of students in the training room under supervision of teacher. Students must write daily report with reflection of diagnosis, efficiency of methods of treatment and conducted manipulations. The regular control of students training levels are supervised during practical classes according to specific goals. The level of preparation of students is determined by answers to control questions, test control of knowledge, in solving clinical cases, evaluation and interpretation of clinical and laboratory and instrumental examinations, control of mastering practical skills and elements of medical equipment during patient supervision.

3. Aim and goals of the subject

1. The purpose of studying – learning practical knowledge of the etiology, pathogenesis, typical and atypical clinical presentation, diagnostic methods (performing manipulations), conservative and surgical treatment, and rehabilitation of surgical pathology, that meet general practitioner training considering its specialty features.

2. The aims of the discipline:

- Identify the most common symptoms and syndromes in patients with surgical diseases.
- Identify the major etiological and pathogenetic factors of the most common surgical diseases.
- Demonstrate the ability to perform the required medical manipulations.
- To demonstrate the moral and ethical principles of medical specialist and principles of professional subordination in surgery.
- Diagnose and provide medical care in urgent conditions for patients with surgical diseases.
- Carry out the prognosis of life and ability to work for the most common surgical diseases.
- Classify and analyze the typical clinical picture of the most common surgical diseases.
- Make up a plan of examination and analyze data from laboratory and instrumental investigations in patients with typical clinical course of the most common surgical diseases.
- Explain the general principles of treatment, rehabilitation and prevention of the most common surgical diseases
- Identify tactics (principles of surgical interventions and conservative treatment, rehabilitation) with the most common surgical diseases and their complications.

- Demonstrate the moral and ethical principles of medical specialist and principles of professional subordination in surgery.
- Provide emergency medical care with the most common surgical diseases.
- Plan examination of the patient, interpret the results of laboratory and instrumental examinations for the most common surgical diseases and their complications.
- Carry out differential diagnosis, justify and formulate preliminary diagnosis of the most common surgical diseases.
- Conduct primary and secondary prevention of the most common surgical diseases.
- Determine a plan of conservative and operative treatment of surgical diseases depending on the pathogenetic factors and the severity of the patient condition.
- Demonstrate the ability to conduct medical records at the clinic of surgical diseases.
- Diagnose complicated and atypical forms of the most common surgical diseases.
- Provide medical care in urgent conditions at the clinic of surgical diseases and perform urgent surgical manipulations and operations.
- Planning scheme of examination of particular patient depending on the clinical features of the disease.
- Carry out differential diagnosis of the most common surgical diseases in urgent and elective surgery.

Competences and results of study, formation of which promotes the discipline - the relationship with the regulatory content of the training of higher education applicants, formulated in terms of learning outcomes in the Standard.

According to demands of standard the discipline provides the acquiring by students the **competences**:

- *integral*: the ability to solve typical and complex problems and practical problems in the field of professional activity 22 "Health care", which involves the application of certain theoretical knowledge, skills, practical skills and methods of relevant professional orientation;

- *general*:

1. The ability to abstract thinking, analysis and synthesis;
2. The ability to study and to master by modern knowledge;
3. The ability to use knowledge in practical situations;
4. The ability to plan and manage by time;
5. The knowledge and understanding of professional activity;
6. The skills of application of informative and communicative technologies;
7. The ability to adaptation and action in the new situation;
8. The ability to accept the substantiated decisions;
9. The ability to work in the team;
10. The skills of interpersonal interaction;
11. The certainty and persistence about given tasks and taken obligations;
12. The aspiring to saving of environment;
13. The ability to act on principle of ethical rationale (motives);

- *special (professional)*:

1. To call - over of anamnesis in surgical patient;
2. Ability to determine the required list of laboratory and instrumental examinations and evaluate their results
3. Making of plan of investigation and evaluation their results;
4. Carrying out of differential diagnostics;
5. Carrying out of preliminary and clinical diagnosis;
6. Ability to determine the principles and methods of disease treatment
7. Ability to determine the required mode of work and rest in the treatment of diseases;
8. Ability to determine the nature of nutrition in the treatment of diseases;
9. To reveal and estimate an urgent medical conditions;

<p>10. Ability to determine the tactics of emergency medical care; 11. Ability to carry out medical and evacuation measures; 12. Emergency care skills 13. Skills to perform medical manipulations; 14. Ability to carry out sanitary and hygienic and preventive measures 15. Ability to keep medical records; 16. Ability to conduct an incapacity examination 17. Ability to conduct epidemiological and medical-statistical studies of public health 18. Ability to analyze the activities of a physician, department, health care institution 19. Ability to take measures to organize and integrate medical care and marketing of medical services.</p>		
4. Prerequisites of the discipline		
<p>"Surgery" as a discipline is based on the knowledge gained by students in the study of normal and pathological anatomy, topographic anatomy, normal and pathological physiology, biochemistry, histology, microbiology, pharmacology, clinical radiology, internal diseases, general surgery, anesthesiology and intensive care, hygiene, social medicine, organization and economics of health care.</p>		
5. Program results of study		
List of the results of study		
Code of the result of study	Content of the result of study	Link to the code in the matrix of competencies
Code is created while filling out the syllabus (categories: Kn – knowledge, Ab – ability, C – competence, AR – autonomy and responsibility)	Results of study determine that the student must know, understand and be able to perform, after completing the discipline. Results of study follow from the set learning goals. To enroll in the discipline, it is necessary to confirm the achievement of each result of study.	Symbol of the Program Result of study Code in the Higher Education Standard
Kn – 1, Ab – 1, C – 1, AR – 1	Collect data on patient complaints, medical history, life history, conduct and evaluate the results of physical examination.	PR 1
Kn – 2, Ab – 2, C – 2, AR – 2	Evaluate information about the diagnosis based on the results of laboratory and instrumental investigations.	PR 2
Kn – 3, Ab – 3, C – 3, AR – 3	Highlight the leading clinical symptom or syndrome. Establish the most probable or syndromic diagnosis of the disease. Assign laboratory and / or instrumental examination of the patient. Carry out differential diagnosis of diseases. Establish a preliminary and clinical diagnosis.	PR 3
Kn – 4, Ab – 4, C – 4, AR – 4	Determine the necessary mode of work and rest during treatment	PR 4
Kn – 5, Ab – 5, C – 5, AR – 5	Determine the necessary therapeutic nutrition in the treatment of the patient.	PR 5
Kn – 6, Ab – 6, C – 6, AR – 6	Determine the principles and methods of treatment (conservative, operative) of patient.	PR 6
Kn – 7, Ab – 7, C – 7, AR – 7	Determine the tactics of urgent medical care based on the diagnosis of emergency.	PR 7

Kn – 8, Ab – 8, C – 8, ARB – 8	Provide emergency medical care based on a diagnosis of emergency.	PR 8
Kn – 9, Ab – 9, C – 9, AR – 9	Organize medical and evacuation measures among the population and servicemen, taking into account the existing system of medical and evacuation support.	PR 9
Kn – 11, Ab – 11, C – 11, AR – 11	Demonstrate the ability to perform the required medical manipulations.	PR 11
Kn – 12, Ab – 12, C – 12, AR – 12	Implement a system of anti-epidemic and preventive measures within the primary health care. Implement a system of primary prevention measures within the primary health care. Organize secondary and tertiary prevention measures among the assigned contingent of the population.	PR 12
Kn – 15, Ab – 15, C – 15, AR – 15	Determine the presence and degree of restrictions on life, type, degree and duration of disability with the registration of relevant documents.	PR 15
Kn – 16, Ab – 16, C – 16, AR – 16	Demonstrate the ability to prepare an annual report on personal activities; to conduct medical records at the clinic of surgical diseases.	PR 16
Kn – 17, Ab – 17, C – 17, AR – 17	Conduct screening for major diseases; evaluate morbidity indices, integrated health indicators; identify risk factors for the occurrence and course of diseases.	PR 17
Kn – 18, Ab – 18, C – 18, AR – 18	Identify negative environmental factors; determine the relationship between the environment and health; develop preventive measures. Carry out analysis of morbidity of the population, identifying risk groups, risk areas, risk factors. Assess the impact of socio-economic and biological determinants on the health of the individual, family, population.	PR 18
Kn – 19, Ab – 19, C – 19, AR – 19	Investigate the scope and effectiveness of the physician, department, health care institution; identify defects in activities and causes. Carry out selection and use unified clinical protocols for medical care; develop and use local health care protocols. Carry out quality control of medical care. Estimate the cost of medical services; substantiate the choice of an adequate method of financing (payment) and the choice of rational forms of organization of medical services. Apply methods of economic analysis when choosing methods of diagnosis, prevention, treatment, rehabilitation.	PR 19
Kn – 20, Ab – 20, C – 20, AR – 20	Organize the work of medical staff; to form rational medical routes of patients; organize interaction with colleagues, organizations and institutions; apply tools to promote medical services.	PR 20
Kn – 21, Ab – 21, C – 21, AR – 21	Form goals and determine the structure of personal activities.	PR 21
Kn – 22, Ab – 22, C – 22, AR – 22	Adhere to a healthy lifestyle, use the techniques of self-regulation and self-control.	PR 22
Kn – 23, Ab – 23, C – 23, AR – 23	To be aware of and guided in their activities by civil rights, freedoms and responsibilities, to raise the general educational and cultural level.	PR 23

Kn – 24, Ab – 24, C – 24, AR – 24	To demonstrate the moral and ethical principles of medical specialist and principles of professional subordination in surgery	PR 24		
Kn – 25, Ab – 25, C – 25, AR – 25	Organize the necessary level of individual safety (own and persons cared for) in case of typical dangerous situations in the individual field of activity.	PR 25		
6. Discipline format and scope				
Discipline format (<i>full-time / part-time</i>)	Full-time			
Type of classes	Hours	Number of groups		
lectures	-			
practical classes	35			
seminars	-			
self-training work	25			
7. Topics and scope of the discipline				
Code of the class type	Topic	Scope of study	Code of the study result	Teaching stuff
P-1 (<i>practical class 1</i>)	1.1. Clinical case on topic: “Arterial thrombosis and embolism”. 1.1.1. Palpation of peripheral vessels. 1.1.2. Modeling a clinical case on a mannequin. 1.2. Palpation of the breast. 1.3. Catheterization of the urinary bladder with a flexible Foley catheter. 1.4. Nasogastric intubation. 1.5. Interactive patient scenario.	Oral survey, practical skills training, MCQs, clinical cases solving.	Kn – 4, 6, 7 Ab – 2, 3, 11 C – 1 Ab – 2, 3, 7 AR – 3, PR – 5-9, 19 PR – 11, 24	Prof. V. Kolomiytsev; Assoc. prof. V. Khomyak; Assoc. prof. O. Chemerys; Assoc. prof. I. Stojanovsky; Ass. prof. V. Marina; Ass. prof. Ja. Pavlovsky
P-2 (<i>practical class 2</i>)	2.1. Clinical case on topic: “Thoracic trauma”. 2.1.1. Modeling a clinical case on a mannequin. 2.2. Pleural puncture. 2.3. Pericardial puncture. 2.4. Interactive patient scenario.	Oral survey, practical skills training, MCQs, clinical cases solving.	Kn-1,4 Kn-5 Ab-1,10 Ab-12 PR-1-3 PR-4,6 Pr-19 PR-20	Prof. V. Kolomiytsev; Assoc. prof. V. Khomyak; Assoc. prof. O. Chemerys; Assoc. prof. I. Stojanovsky; Ass. prof. V. Marina; Ass. prof. Ja. Pavlovsky
P-3 (<i>practical</i>)	3.1. MARCH protocol. M – Massive bleedings:	Oral survey, practical skills training, MCQs, clinical	Kn-7, Ab-3,	Prof. V. Kolomiytsev;

<i>class 3)</i>	- Applying a tactical tourniquet CAT; - Applying Esmarch tourniquet; - External tamponade of the wound. A – Airways; R – Respiration; C – Circulation; H – Head injury/Hypothermia.	cases solving.	Ab-7, AR-2, PR-6-9 PR-11, PR-16, PR-19, PR-25	Assoc. prof. V. Khomyak; Assoc. prof. O. Chemerys; Assoc. prof. I. Stojanovsky; Ass. prof. V. Marina; Ass. prof. Ja. Pavlovsky
P-4 (<i>practical class 4)</i>	4.1. Principles of triage and evacuation of victims in mass-casualty incidents. 4.2. Transport immobilization. 4.2.1. Transport immobilization of the cervical spine. 4.2.2. Transport immobilization for shoulder and forearm fractures. 4.2.3. Transport immobilization for hip and lower leg fractures. 4.3. Determination of blood groups and Rh factor. 4.4. Interactive patient scenario.	Oral survey, practical skills training, MCQs, clinical cases solving.	Kn-7, Ab-3, Ab-7, AR-2, PR-6-9 PR-11, PR-16, PR-19, PR-25	Prof. V. Kolomiytsev; Assoc. prof. V. Khomyak; Assoc. prof. O. Chemerys; Assoc. prof. I. Stojanovsky; Ass. prof. V. Marina; Ass. prof. Ja. Pavlovsky
P-5 (<i>practical class 5)</i>	5.1. Clinical case live presentation with actor. 5.2. Clinical case live presentation with actor. 5.3. Clinical case live presentation with actor. 5.4. Clinical case live presentation with actor. 5.5. Clinical case live presentation with actor. 5.6. Clinical case live presentation with actor. 5.7. Clinical case live presentation with actor.	Oral survey, practical skills training, MCQs, clinical cases solving.	Kn -1, Kn-5, Ab-2, Ab-13, PR-1, PR-3, PR-7, PR-11	Prof. V. Kolomiytsev; Assoc. prof. V. Khomyak; Assoc. prof. O. Chemerys; Assoc. prof. I. Stojanovsky; Ass. prof. V. Marina; Ass. prof. Ja. Pavlovsky
SSW-1 (<i>students' self-training work 1)</i>	Preparations for the classes. Training of practical skills.	Preparation for practical classes, acquaintance with the main manifestations of surgical diseases, modern methods of diagnosis and treatment. Review of scientific materials	C-1, C-2, AR-3, PR-16, PR-19-25	Prof. V. Kolomiytsev; Assoc. prof. V. Khomyak; Assoc. prof. O. Chemerys; Assoc. prof. I.

				Stojanovsky; Ass. prof. V. Marina; Ass. prof. Ja. Pavlovsky
SSW-2 (students' self-training work 2)	Self-processing topics not included in the plan of classes: 1. The structure of medical care according to the TCCC (Tactical Combat Casualty Care) protocol; 2. FAST ultrasound examination protocol. Laparocentesis technique; 3. Basics of transport immobilization; 4. Classification, diagnosis and treatment of gunshot wounds; 5. Basics of transfusion medicine.	Preparation for practical classes, acquaintance with the main manifestations of surgical diseases, modern methods of diagnosis and treatment. Review of scientific materials.	Kn-1-8 Ab-1, Ab-3-5 Ab-7,8 C-2, AR-1, PR-1-12, PR-15-18, PR-21	Prof. V. Kolomiytsev; Assoc. prof. V. Khomyak; Assoc. prof. O. Chemerys; Assoc. prof. I. Stojanovsky; Ass. prof. V. Marina; Ass. prof. Ja. Pavlovsky
SSW-3 (students' self-training work 3)	Individual independent work: 1. Literature review by choice.	Familiarization with scientific achievements and the latest technologies in surgery. Improving disease recognition and communication skills with patients and colleagues. Participation in the research work of the department	C-1, C-2, AR-1-3, PR-16-25	Prof. V. Kolomiytsev; Assoc. prof. V. Khomyak; Assoc. prof. O. Chemerys; Assoc. prof. I. Stojanovsky; Ass. prof. V. Marina; Ass. prof. Ja. Pavlovsky

8. Verification of study result

Current control

Forms of control and evaluation system is carried out according to the requirements of the discipline program and instruction of the system of evaluation of learning activities of students in credit-modular system of educational process, approved by the Ministry of Healthcare of Ukraine (2005). Grade for the discipline is determined based on the results of the current study and evaluation of students assimilation of the separate modules according to the Act on rating system of evaluation of learning activities of students in High Medical (Pharmaceutical) Educational Establishments in Ukraine.

In carrying out all types of control (at each class, on the final class of semantic modules, on the final module control) will be applied objective methods for evaluating the level of knowledge and practical skills – MCQs for theoretical knowledge, individual control of students actions, complicated clinical cases.

Current control carried out at each class according to the specific goals of each topic. In evaluating the learning activities of students is planned use of standardized methods of control: MCQs solving, structured written answers on open questions, control of conduction of practical skills.

Evaluation of current study: The share of each topic within a module is the same but may be different for different modules of single discipline. Evaluation of current educational system of students is described in the study program of the discipline. During each class of the module for current study student gets marks: "5" (excellent), "4" (good), "3" (satisfactory), "2" (unsatisfactory).

Mark "5" (excellent) – gets student who deeply and reliably learned program material, thoroughly, consistently, competently and methodically explains theoretical knowledge, in whose answers theory is closely related with practice. The student does not hesitate to answer on modified tasks, easily cope with the clinical cases and questions of the second and third level of knowledge assessment, shows acquaintance with monographic literature, correctly justifies the decision, possesses elements of doctors abilities, skills and techniques of practical work. Practical skills performs without error, in professional activities can efficiently use the acquired knowledge.

Mark "4" (good) – gets student who knows program material correctly and essentially explains it, who does not make significant errors in responses to questions and in carrying out the necessary practical skills.

Mark "3" (satisfactory) – gets student who has knowledge of the basic material only, but does not learned details, not correctly formulate answers, has difficulties in performing practical skills or performs them with significant errors, has difficulties in solving clinical cases of the third level of knowledge control.

Mark "2" (unsatisfactory) - gets student who does not know a large part of the program material, makes substantial errors, uncertainly executes practical works, does not solve II-III level tasks of control.

Final control

General evaluation system	Participation to the classes during the semester – 60%/40% on a 200-point scale.	
Evaluation scales	Traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale.	
Conditions of admission to the final control	The student attended all practical (laboratory, seminar) classes and received at least 120 points for current performance.	
Type of final control	Methods of final control	Enrollment criteria
Credit	It is necessary to enroll all topics submitted for current control. Grades from the 4-point scale are converted into points on a multi-point (200-point) scale in accordance with the Regulation “Criteria, rules and procedures for evaluating the results of students’ learning activities”.	<i>The maximum number of points is 200.</i> <i>The minimum number of points is 120</i>

The maximal number of points that a student can score for the current academic activity for admission to the exam / differentiated test is 200 points.

The minimal number of points that a student must score for the current academic activity for admission to the exam / differentiated test is 120 points.

The calculation of the number of points is based on the grades obtained by the student on a 4-point (national) scale during the study of the discipline, by calculating the arithmetic mean (AM), rounded to two decimal places. The resulting value is converted into points on a multi-point scale as follows:

$$x = \frac{AM \times 200}{5}$$

Recalculation of the average mark for current activities in a multi-point scale for disciplines that end with credit.

4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale
5	200	4.45	178	3.92	157	3.37	135
4.97	199	4.42	177	3.89	156	3.35	134
4.95	198	4.4	176	3.87	155	3.32	133
4.92	197	4.37	175	3.84	154	3.3	132
4.9	196	4.35	174	3.82	153	3.27	131
4.87	195	4.32	173	3.79	152	3.25	130
4.85	194	4.3	172	3.77	151	3.22	129
4.82	193	4.27	171	3.74	150	3.2	128
4.8	192	4.24	170	3.72	149	3.17	127
4.77	191	4.22	169	3.7	148	3.15	126
4.75	190	4.19	168	3.67	147	3.12	125
4.72	189	4.17	167	3.65	146	3.1	124
4.7	188	4.14	166	3.62	145	3.07	123
4.67	187	4.12	165	3.57	143	3.02	121
4.65	186	4.09	164	3.55	142	3	120
4.62	185	4.07	163	3.52	141		
4.6	184	4.04	162	3.5	140		
4.57	183	4.02	161	3.47	139	< 3	Not enough
4.52	181	3.99	160	3.45	138		
4.5	180	3.97	159	3.42	137		
4.47	179	3.94	158	3.4	136		

Percentage of students is determined among all students of the course within a corresponding specialty. Students who have been assessed FX, F ("2") are not ranked even after retaking the module. These students will automatically receive points E after retaking the module.

Mark ECTS	Statistical index
A	Best 10 % of students
B	Next 25 % of students
C	Next 30 % of students
D	Next 25 % of students
E	Last 10 % of students

Criteria for assessing an objective structured practical exam / Complex of practice-oriented exam

Assessment of students' knowledge at stations №4 (solving a clinical situational problem) and №5 (performing practical skills) is based on checklists, which provide the following categories:

- performed 0.1-0.2 points,
- partially performed 0.1-0.05 points,
- not 0 points.

The student can receive a maximum of 1 point for the answer at the station. Points for stations are added and converted into a mark.

9. Policy of discipline

Academic Integrity: Students' work is expected to be their original research or reasoning. Lack of references to sources used, fabrication of sources, copying, interference in the work of other students, etc. are examples of possible academic dishonesty. Identification of signs of academic dishonesty in the student's work is the basis for non-enrollment by the teacher, regardless of the extent of plagiarism or deception.

Sources of training: the source base can be provided by the teacher exclusively for educational purposes without the right to transfer it to third parties. Students are encouraged to use other literature that is not listed in available thematic plans.

10. References

1. Dilemmas in Abdominal Surgery: A Case-Based Approach / Savio George Alberto da Piedade Barreto, Shailesh Vinayak Shrikhande [et al.]. - CRC Press, 2020. - 298p.
2. Emergency war surgery / M.A. Cubano, M.K. Lenhart, J.A. Bailey [et al.]. – Houston: Office of the Surgeon General, 2013. – 472p.
3. Essential practice of surgery: basic science and clinical evidence / J.A. Norton, R.R. Bollinger, A.E. Chang [et al.] – New York: Springer, 2003. – 761p.
4. Fischer’s mastery of surgery: 7th edition // J.E. Fischer, E.C. Ellison, G.R. Upchurch Jr. [et al.]. – Philadelphia : Wolters Kluwer, 2019. – 8141 p.
5. Haimovici’s Vascular Surgery / E. Ascher, F.J. Veith, P. Gloviczki [et al.] – West Sussex: Wiley-Blackwell, 2012. – 1317p.
6. Manual of Complex Abdominal Wall Reconstruction / J. Garner, D. Slade [et al.]. - CRC Press, 2020. - 250p.
7. Sabiston Textbook of Surgery / C. Townsend, R.D. Beauchamp, B.M.Evers, K. Mattox ed. – 20th ed. – Elsevier, 2016. – 2176 p
8. Schwartz’s manual of surgery / C. B. Brunicaardi, R.E. Pollock, and D.L. Dunn ed. – 8th ed. – Texas: The McGraw-Hill Professional, 2007.
9. Schwartz’s principles of surgery 2-volume set / F. C. Brunicaardi, D.K. Andersen, T.R. Billiar [et al.] – 11th ed. – Texas: The McGraw-Hill Professional, 2019.
10. Surgical Management of Hepatobiliary and Pancreatic Disorders, Second Edition / Graeme J. Poston, Michael D’Angelica [et al.]. - CRC Press, 2010. - 514p.
11. Textbook of endocrine surgery / O.H. Clark, Q.-Y. Duh, E. Kebebew [et al.]. – Philadelphia: Elsevier, 2005. – 828p.

11. Equipment and software of the discipline / course

1. Guidelines for medical students.
2. MCQs for test control of knowledge.
3. MCQs, guidelines and selected materials of lectures on the platform for distance learning Misa.
4. Training-class of the Department.
5. Multimedia presentations, videos.

Equipment for the training-room of the Department of Surgery № 1

№.	Equipment	Qw
1.	Mannequin for cardiopulmonary resuscitation	1
2.	Ambu breathing bag	1
3.	Airways	2
4.	Phantom for stomach lavage	1
5.	Tube for stomach lavage	1
6.	Phantom for urinary bladder catheterization	1
7.	Urinary catheters:	
	- metal	1
	- Foley catheter	3
8.	Model of the upper extremity for venous puncture	1
9.	Model of a limb wound	1
10.	Model of a hand with burns of various degrees	1
11.	Model of breast pathology	5
12.	Cramer splint for immobilization	3
13.	Sets for metal osteosynthesis	3
14.	Needle with adapter for puncture of the pleural cavity	1
15.	Blood grouping kit	1
16.	Negatoscope	1

12. Additional information

Responsible persons for the educational process at the department of Surgery №1 – ass. prof. Volodymyr Marina;

Responsible for student's research group of the department of Surgery №1 – assoc. prof. Ihor Stojanovsky.

Venue of classes – **Department of Surgery №1, Lviv, Yu. Roofa str., 4.**

Links to website - <https://new.meduniv.lviv.ua/kafedry/kafedra-hirurgiyi-1/>

Syllabus compliers:

V. Kolomytsev, professor, MD, PhD, DSc

V. Khomyak, MD, PhD, associate professor ;

Chairman of Department

O. Lukavetsky, professor, MD, PhD, DSc

A handwritten signature in blue ink, appearing to be 'Ihor Stojanovsky', is shown on a light-colored background.