

**MINISTRY OF HEALTH PROTECTION OF UKRAINE**  
**ODESSA NATIONAL MEDICAL UNIVERSITY**  
 Medical (international) faculty  
 Department of Human Anatomy

**SYLLABUS OF ACADEMIC DISCIPLINE**  
**«Clinical Anatomy and Operative Surgery»**

Amount	Medical faculty - 90 hours / 3.0 credits Applicants: II year IV semester Bachelors: III year V semester
Days, time, location	Monday-Friday 8.30 to 16.00 according to the schedule, Department of Human Anatomy. During distance learning, education is carried out on the Microsoft Teams platform.
Teachers	<ol style="list-style-type: none"> <li>1. Appelhans Olena - Head of the Department, Doctor of Medicine, Professor.</li> <li>2. Koshelnyk Olena -Associate Professor, Ph.D.</li> <li>3. Antsut Olga - Senior Teacher, Head Teacher of the Department</li> <li>4. Antonova Natalya - Senior Teacher, Head of the Museum of Human Anatomy</li> <li>5. Kuznetsova Olena - Senior Teacher</li> <li>6. Chebotaryova Svitlana - Senior Teacher</li> <li>7. Ursu Alexandr - Senior Teacher</li> </ol>
Contact numbers	<p style="text-align: center;">Phone information:</p> <ol style="list-style-type: none"> <li>1. Appelhans Olena           0674842052</li> <li>2. Koshelnyk Olena         0679905679</li> <li>3. Ancut Olga                 050-4561236</li> <li>4. Antonova Natalya        0633547515</li> <li>5. Kuznetsova Olena        0632979525</li> <li>6. Chebotaryova Svetlana  0674838985</li> <li>7. Ursu Alexandr            097-1677773</li> </ol> <p>E-mail: <a href="mailto:anatomy@onmedu.edu.ua">anatomy@onmedu.edu.ua</a></p> <p>Consultations are conducted by the duty teacher according to the schedule of duties; Tuesday and Thursday - 14.30 - 17.30.          (For the period of military situation – on Teams platform from 14.30 - 16.30 in group "Practice - human anatomy and clinical anatomy")</p>

## COMMUNICATION

Communication with applicants will be carry out in the classroom. During distance education, communication is carried out on the Microsoft Teams platform, through e-mail correspondence [anatomy@onmedu.edu.ua](mailto:anatomy@onmedu.edu.ua), Viber and Telegram messengers.

## COURSE ANNOTATION

**Subject of study:** Clinical and anatomical substantiation of the main instrumental manipulations in the practice of surgery and internal medicine.

**Prerequisites.** The educational discipline "Clinical Anatomy and Operative Surgery" is based on knowledge of applicants of medical biology, human anatomy, histology, physiology, biophysics, biochemistry, Latin language, foreign language (for professional direction), medical terminology, ethics, philosophy and is integrated with these disciplines.

**Postrequisites.** Mastering the discipline lays the foundations for applicants to study clinical disciplines of therapeutic and surgical profile - surgery, neurosurgery, anaesthesiology and intensive care, obstetrics and gynaecology and other disciplines where surgical methods of treatment are used, which involves the integration of teaching with these disciplines and the development of skills to apply knowledge in the process of further education and professional activity.

### **The aim of the discipline:**

Acquisition by each applicant of specific knowledge of clinical anatomy necessary to substantiate a clinical diagnosis, understand the pathogenesis of various diseases, the development of possible complications to choose the most rational methods of surgical intervention, mastering the techniques and skills of surgical interventions.

### **The objectives of the discipline:**

- formation of knowledge of clinical anatomy of body regions;
- ability to interpret topographic and anatomical relationships from the standpoint of variational and age-related clinical anatomy;
- formation of skills to apply knowledge of clinical anatomy to substantiate the diagnosis and understand the pathogenesis of various pathological processes;
- formation of skills to choose the most rational methods of surgical intervention;
- mastery of the technique of performing basic surgical interventions on cadaver and simulators.

### **Expected results**

As a result of the study of the discipline the applicant should:

*Know:*

- the general principle of the layered structure of the human body;
- clinical anatomy of regions of the human body;
- clinical anatomy of internal organs of the human body;
- clinical anatomy of cellular spaces, neurovascular bundles;
- age-related and individual features of the structure, shape, topography of internal organs and other anatomical formations;
- technique of using surgical instruments;
- general stages of instrumental interventions and manipulations.

*Be able to:*

- demonstrate and describe the clinical anatomy of human body regions, internal organs, fatty cellular spaces, neurovascular bundles;
- use knowledge of clinical anatomy to justify the anatomical features of the patient's body in various pathological conditions;
- use general surgical instruments;
- justify the choice of technique of instrumental interventions based on knowledge of clinical anatomy;
- make basic manipulations performed in practical surgery and internal medicine on cadaver and simulators.

## **COURSE DESCRIPTION**

The course will be presented in the form of lectures (12 hours), practical classes (48 hours) and organization of independent work (30 hours).

*Teaching methods: verbal, visual, practical.*

**Lecture classes:** comprehension of the presented material and preparation of notes.

**Practical classes:** answering, explaining, talking, work with a text book, solving situational tasks, demonstrating and practicing practical skills according to the list on simulation models and in a special classroom equipped as an operating room, correct use of surgical instruments.

**Forms of Independent work:** theoretical preparation for the next practical lesson, study of basic and additional literature, lecture texts, watching educational

videos, solving thematic test, tasks, mastering of practical skills, writing literature reviews, abstracts and presentations on specific topics of the educational material using additional educational and scientific literature, writing protocols of manipulation and operations of fix topics.

### **Content of the discipline**

**Topic 1.** Introduction to the discipline. General surgical instruments. Technique of dissection and connection of tissues. Types of surgical sutures and knots.

**Topic 2.** Clinical anatomy of the cerebral region of the head. Regions, layered structure. Features of blood supply and venous drainage.

**Topic 3.** Clinical anatomy of the facial part of the head. Areas, layered structure. Features of blood supply and venous drainage.

**Topic 4.** Surgical interventions on the head: debridement of the short head wounds, skull trepanation, antrotomy. Rational incisions on the face. Opening of frontal and maxillary sinuses.

**Topic 5.** Clinical anatomy of the neck. Regions, triangles. Neck fasciae and interfascial spaces. Carotid triangle, its contents and clinical significance. Clinical anatomy of the neck organs.

**Topic 6:** Surgical interventions for asphyxia - conicotomy, cricotomy, tracheotomy. Resection of the thyroid gland according to O.V. Nikolaev. Operations on the vessels of the neck.

**Topic 7.** Summary lesson on clinical anatomy and operative surgery of the head and neck.

**Topic 8.** Clinical anatomy of the chest. Topography of intercostal spaces. The diaphragm. The mammary gland. Clinical anatomy of the pleura, pleural sinuses, lungs, trachea, bronchi.

**Topic 9.** Clinical anatomy of the mediastinum. Clinical anatomy of the heart, pericardium. Functional anatomy of heart valves. Thymus. The oesophagus. Great vessels and nerves of the mediastinum.

**Topic 10.** Puncture of the pleural cavity. Types of pneumothorax, surgical intervention for removal. Surgical access to organs of the thoracic cavity. Operations in case of coronary circulation failure.

**Topic 11.** Clinical anatomy of the anterolateral abdominal wall. Regions, layers, "weak places". The inguinal canal. The femoral canal. Umbilical region and linea alba of abdomen. Surgical accesses to the abdominal organs (laparotomy).

**Topic 12.** The determination and classification of abdominal herniae. Surgical anatomy and surgical repair of inguinal, femoral, umbilical herniae. Hernia of linea alba abdominis.

**Topic 13.** Abdominal cavity, storeys. Clinical anatomy of the peritoneum and peritoneal formations – lesser sac, greater sac, recesses, paracolic gutters, mesentery sinuses.

**Topic 14.** Structure of the wall of the gastrointestinal tract. Clinical anatomy of the stomach, duodenum. Intestinal sutures. Resection of the stomach. Gastrostomy. Vagotomy.

**Topic 15.** Clinical anatomy of the liver and biliary tracts. Cholecystectomy. Clinical anatomy and operations on the pancreas and spleen.

**Topic 16.** Clinical anatomy of the small and large intestine. Morphological differences. Appendectomy. Faecal fistula and artificial anus. Functional differences.

**Topic 17.** Clinical anatomy of the lumbar region and retroperitoneal space. Operations on retroperitoneal organs: pyelotomy, nephrotomy, nephrectomy.

**Topic 18.** Summary lesson on clinical anatomy and operative surgery of the chest, anterolateral abdominal wall, abdominal cavity and retroperitoneal space.

**Topic 19.** Clinical anatomy of the male pelvis: bones, muscles, fasciae, fatty cellular spaces, storeys. Surgical anatomy of the male pelvic organs. Operations on the urinary bladder, testicles, rectum.

**Topic 20.** Clinical anatomy of the female pelvis. Surgical anatomy of the female pelvic organs. Puncture of the posterior vaginal fornix. Surgery for ectopic pregnancy.

**Topic 21:** Clinical anatomy of the upper extremity: layered structure, canals, sulcuses, projections of vessels. Shoulder girdle: subclavian, deltoid, scapular and axillary areas. Upper arm and shoulder joint. Clinical anatomy of the elbow, forearm and hand. Pirogov's space. Operations for purulent diseases of the hand.

**Topic 22.** Clinical anatomy of the gluteal region. Quadrants. Supra- and infrapiriform foramen, contents. Spread of inflammatory processes from the pelvis to the anterior and posterior surfaces of the thigh. Femoral, obturator and adductor

canal. Clinical anatomy of the thigh, popliteal fossa, knee, shin and foot. Muscles, triangles, fissurae, canals.

**Topic 23:** Operations on the limbs. Osteotomy, osteosynthesis. Amputations. Operative accesses and ligation of great vessels.

**Differentiated test.**

### **List of recommended literature**

*Basic:*

1. Koshelnyk E.L. Basics of clinical anatomy and operative surgery: study guide for students / E.L.Koshelnyk, A.G.Popov. – Odessa: Odessa State Medical University, 2019. – 103 p.
2. Clinical anatomy and operative surgery: text book/Slobodyan A., Kostyuk G., Yershov V., Psvtorak V.; edited by Yershov V.- Kyiv: AUS Medicine Publishing.2018.-514 p.
3. Tsyhykalo O. V. Topographical anatomy and operative surgery [Text]: textbook for english-speaking foreign students of higher educational institutions of III-IV levels of accreditation /O.V. Tsyhykalo, 3<sup>rd</sup> edition, 2018. - 524 c.

*Additional:*

1. Snell Richard S. Clinical Anatomy by Regions / R. S. Snell, 10<sup>th</sup> edition, 2018. - 816 p.
2. John T. Hansen. Netter's Clinical Anatomy / John T. Hansen, 3<sup>rd</sup> edition, 2014. - 546 p.: ill.
3. Farquharson's Textbook of Operative General Surgery: text book/Farguharson M., Hollingshead J., Moran B., 3<sup>rd</sup> edition, 2014. -560 p.
4. Gvalani AK. Manual of Instruments and Operative Surgery. - Paperback – 2016. – 995 p.
5. E.C. Ellison. Zollinger's Atlas of Surgical Operations / R.M. Zollinger, E.C. Ellison. - 10th ed. - McGraw-Hill, 2016. - 514 p.
6. Mulholland Michael W. Operative Techniques in Surgery/ Mulholland Michael W., Albo Daniel, 2014. – 1433 p.

### **Electronic resources**

1. <https://info.odmu.edu.ua/chair/anatomy/files/109/en> - materials from the course "Clinical Anatomy and Operative Surgery"
2. <https://webop.com> – online reference book and e-book on surgical operations.
3. <https://www.primalpictures.com>. – 3D anatomy resource for teachers, students, practitioners and professionals
4. <https://www.visiblebody.com> - resource of the international educational

community "Visible Body"

5. <https://3d4medical.com> - the world's most advanced 3D anatomy platform

## Evaluation

*Current success.* Forms and methods of current control are carried out during classes and are aimed at checking applicant' assimilation of educational material, the level of theoretical and practical training. Forms of control - survey, conversation, report, testing, solving situational problems, solving a clinical situational problem, demonstration of practical skills or abilities. Forms for evaluation of current educational activities are standardized and correspond to standards of answers. Evaluation of the success of studying each topic of the discipline is carried out according to a traditional 4-point scale.

### Current assessment criteria for practical training

«5»	The applicant mastered the theoretical material flawlessly, demonstrates deep and comprehensive knowledge of the topic, the main provisions of scientific primary sources and recommended literature, freely uses the acquired theoretical knowledge when analyzing practical material, expresses his attitude to certain problems, demonstrates a high level of mastery of practical skills.
«4»	The applicant has mastered the theoretical material well, has the main aspects from primary sources and recommended literature, presents it in a reasoned way; has practical skills, expresses his thoughts on certain problems, but certain inaccuracies and errors are assumed in the logic of the presentation of theoretical content or in the analysis of practical ones.
«3»	The applicant has mainly mastered the theoretical knowledge of the educational topic, orients himself in the primary sources and recommended literature, but answers unconvincingly, confuses concepts, additional questions cause the student insecurity or lack of stable knowledge; when answering questions of a practical nature, reveals inaccuracies in knowledge, does not know how to evaluate facts and phenomena, connect them with future activities.
«2»	The applicant has not mastered the educational material of the topic, does not know scientific facts, definitions, hardly orients himself in primary sources and recommended literature, lacks scientific thinking, practical skills are not formed.

*Form and methods of final control: differentiated test.*

The differentiated test is conducted by the head of the department, associate professor of the department, or a teacher of the department at the last lesson of the educational component by interviewing the applicant at the last practical lesson orally, with the obligatory performance by the applicant of all types of work provided for by the working curriculum and evaluated for the current educational activity on average not lower than 3.00.

The grades "good" and "satisfactory" received by the applicant in the final control (differential credit) are not retaken. A applicant who has been admitted to take a differential test and fails to appear for it without good reason is considered to have received a failing grade.

**Criteria for assessing learning outcomes during the final control -  
differentiated test**

Mark	Assessment criteria
Excellent  «5»	The applicant has answered the questions correctly, accurately and fully. The applicant has a thorough and comprehensive knowledge of the content of theoretical issues, is fluent in professional and scientific terminology. He/she thinks logically and constructs an answer, freely uses the acquired theoretical knowledge in the analysis of practical tasks.
Good  «4»	The applicant has answered the questions sufficiently. He/she has a sufficiently deep and comprehensive knowledge of the content of theoretical issues, knows professional and scientific terminology. He/she thinks logically and constructs an answer, uses the acquired theoretical knowledge in the analysis of practical tasks. However, some questions lack sufficient depth and argumentation, and the candidate makes minor mistakes that are eliminated by the candidate when pointed out by the teacher.
Satisfactorily  «3»	The applicant has answered the questions incompletely, the answers to additional and leading questions are vague and vague. Has the basic amount of theoretical knowledge, inaccurately uses professional and scientific terminology. Has significant difficulties in constructing an independent logical answer.
Unsatisfactorily  «2»	The applicant answered the main, additional and leading questions. He/she has not mastered the main body of theoretical knowledge, shows a low level of proficiency in professional and scientific terminology. The answers to the questions are fragmentary,



	inconsistent, illogical, and cannot apply theoretical knowledge in the analysis of practical tasks.
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The grade for the discipline consists of 50.0% of the grade for the current performance and 50.0% of the grade for the final test. The average score for the discipline is translated into a national grade and converted into scores on a multi-point scale. Conversion of the traditional grade for the discipline in the 200-point is carried out by the information and computer center of the university program "Contingent".

#### **Table for traditional mark conversion into the multi-point**

<b>National assessment for the discipline</b>	<b>The sum of points for the discipline</b>
Excellent («5»)	185 – 200
Good («4»)	151 – 184
Satisfactorily («3»)	120 – 150
Unsatisfactorily («2»)	less 120

**Independent work of applicants:** The content of independent work is determined by the working curriculum of the discipline and methodical recommendations of the teacher. Applicants are also recommended for independent study of relevant scientific literature and periodicals. Methodical support of independent work of students provides means of self-control (tests, a package of control tasks).

#### **COURSE POLICY**

The policy of the academic discipline complies with the rules established by the Regulations on academic integrity and ethics of academic relations at the Odessa National Medical University, in accordance with the Code of Academic Ethics and Relationships of the University Community of the Odessa National Medical University, the Regulations on the Prevention and Detection of Academic Sciences of Higher Education Applicants, Researchers and teachers of Odessa National Medical University

**Discipline requirements:** mandatory attendance of classes, active participation in discussions, preliminary preparation for classes with textbooks and basic literature, quality and timely performance of tasks for independent work, participation in all types of control.

**Observance of academic integrity** involves: independent performance of all types of work, tasks, forms of control provided for by the work program of this academic discipline; references to sources of information in the case of using ideas, developments, statements, information; compliance with the legislation on copyright and related rights; provision of reliable information about the results of one's own educational (scientific) activity, used research methods and sources of information.

Unacceptable in educational activities for participants of the educational process are: using family or official ties to obtain a positive or higher grade during any form of control of learning outcomes or academic performance; use of prohibited auxiliary materials or technical means (cheat sheets, notes, micro-earphones, telephones, smartphones, tablets, etc.) during control measures; passing procedures for control of training results by fake persons.

For violation of academic integrity, applicants may be held to the following academic responsibility: a decrease in the results of assessment of control work, assessment in class, credit, etc.; retaking the assessment (control work, credit, etc.); appointment of additional control measures (additional individual tasks, control works, tests, etc.); conducting an additional inspection of other works authored by the violator.

**Mobile devices:** Before the lesson begins, the applicant should turn off the sound in the mobile phone and other devices that can play it. This is an international rule of etiquette that applies to the educational process. It is not allowed to use them during the lessons, for purposes that are not related to or disrupt the learning process. Attempting to talk during class is considered a gross violation of ethical rules of conduct.

**Behavior in the audience:** applicants must monitor their appearance, monitor their speech, to avoid the use of obscene words. Familiarity, rudeness, disrespect in communication with the interlocutor, indecent behavior in any form are inadmissible. It is strictly forbidden to use narcotic and toxic drugs. It is not allowed to use alcoholic and low-alcohol beverages or to be in a condition, which is conditioned by it, at any time on the territory of the university. Takes care of the material and technical base and educational literature of the university.