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

SYLLABUS OF ACADEMIC DISCIPLINE
"Clinico-anatomical substantiation of the main instrumental manipulations in the practice of surgery and internal medicine"

Amount	Medical faculty - 90 hours / 3.0 credits Applicants: II year III-IV 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	1. Appelhans Olena - Head of the Department, Doctor of Medicine, Professor. 2. Koshelnyk Olena -Associate Professor, PhD. 3. Antsut Olga - Senior Teacher, Head Tacher of the Department 4. Antonova Natalya - Senior Teacher, Head of the Museum of Human Anatomy 5. Kuznetsova Olena - Senior Teacher 6. Chebotaryova Svitlana - Senior Teacher 7. Ursu Alexandr - Senior Teacher
Contact numbers	Phone information: 1. Appelhans Olena 0674842052 2. Koshelnyk Olena 0679905679 3. Ancut Olga 050-4561236 4. Antonova Natalya 0633547515 5. Kuznetsova Olena 0632979525 6. Chebotaryova Svetlana 0674838985 7. Ursu Alexandr 097-1677773 E-mail: anatomy@onmedu.edu.ua 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")

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,** Viber and Telegram messengers.

COURSE ANNOTATION

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

Prerequisites. The educational discipline "Clinico-anatomical substantiation of the main instrumental manipulations in the practice of surgery and internal medicine" is based on applicant's knowledge 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 of competences and practical skills by each applicant, based on knowledge of clinical anatomy to choose the most rational methods of surgical intervention, mastering the techniques and skills of basic instrumental interventions.

The objectives of the discipline:

To acquire knowledge, skills and practical abilities that enable the future doctor to develop the ability to provide medical care in emergency situations, to patients with surgical and therapeutic profile, ability to anatomically justify the method of their implementation. To master the skills of using general surgical instruments for dissection and connection of soft tissue, temporary and permanent control of bleeding.

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, which are based on knowledge of clinical anatomy;

- make basic manipulations performed in practical surgery and internal medicine on cadaveric material and simulators.

COURSE DESCRIPTION

The course will be presented in the form of practical classes (30 hours) and organization of independent work (60 hours).

Teaching methods:

- verbal (answer, explanation, conversation, solving clinical situational tasks, work with a book);
- visual (drawing, demonstration, illustration);
- practical (development of practical skills, correct use of surgical instruments).

On practical classes: answering, explaining, talking, working 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: Surgical instruments. Rules of practical using of instruments. Modern surgical material for place of sutures. Types of sutures, knots. Principles of separation and connection of tissues. Local anaesthesia: types, features of application.

Topic 2. Clinical anatomy of the brain meninges and intermeningeal spaces. Hematomae of the cerebral regions of the head. Features of bleeding control and wound treatment on calvaria. Penetrating and non-penetrating wounds of the head. Cranioplasty.

Topic 3. Clinical anatomy of the facial fatty cellular spaces, ways of spreading of inflammatory processes. Clinical anatomy of the paranasal sinuses. Places of exit of the terminal branches of the trigeminal nerve. Topographic and anatomical justification of rational incisions on the face. Debridement of the short facial wounds.

Topic 4. Topography of the neurovascular bundles of the neck. Features of bleeding control and treatment of wounds in case of neck injuries. Medical aid in case of asphyxia (conicotomy, cricotomy, tracheotomy) according to age-related anatomical features of a person. Topographo-anatomical justification of vagosympathetic blockade.

Topic 5. Clinical anatomy of the mammary gland. Incisions in purulent inflammation of the mammary gland (mastitis). Clinico-anatomical substantiation of radical mastectomy. Organ-preserving operations and plastic surgery on the mammary gland. Intercostal spaces: structure and contents. Clinical anatomy of the pleura. Topographo-anatomical justification and conditions for performing a pleural puncture.

Topic 6. Operations in case of heart injury. Surgical accesses to the heart. Topographo-anatomical substantiation of technique of pericardial puncture. Surgical interventions on the lungs.

Topic 7. Surgical anatomy of hernia. Topographo-anatomical substantiation of plastic repair of hernial ring in direct and indirect inguinal hernia. Clinical anatomy of the anterolateral abdominal wall.

Topic 8. Storeys of abdominal cavity. Clinical anatomy of the peritoneum and peritoneal formation – lesser sac, greater sac, recesses, paracolic gutters, mesentery sinuses. Ways of spreading of purulent process in the abdominal cavity. Surgical accesses to the omental bursa. Surgical accesses to the abdominal organs: laparotomy, laparoscopy. The concept of open and endoscopic surgery.

Topic 9. Resection of the intestine. Types of enteroanastomoses: end to end, side to side, end to side. Anatomical justification of intestinal sutures. Traumatic damage of the abdomen. Revision of abdominal organs in case of penetrating abdominal injuries.

Topic 10. Clinical anatomy of the stomach, duodenum. Duodenojejunal flexure, its practical significance, method of identification during surgery. Gastroenterostomy. Features, disadvantages and advantages of different types of gastric resections.

Topic 11. Clinical anatomy of the biliary tract. Calot's triangle. Cholecystectomy. Clinical anatomy of the small and large intestine. Morphological differences. Appendectomy, justification of surgical access to the appendix.

Topic 12. Clinical anatomy of retroperitoneal space, cellular spaces and ways of spreading of purulent processes. Operations on the kidney. The procedure of separating of kidney from the capsules. Topographo-anatomical justification for the implementation and results of paranephric blockade.

Topic 13. Ascites: etiology and pathogenesis. Abdominal puncture in ascites. Puncture and catheterisation of the urinary bladder. Puncture of the posterior vaginal fornix in ectopic pregnancy.

Topic 14. Methods of temporary and permanent control of bleeding. Features of blood supply and venous outflow from the extremities. Projection lines and opening of neurovascular bundles. Venipuncture and catheterisation of the great vessels of the limbs. Vascular suture.

Topic 15. Credit

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, 3rd edition, 2018. - 524 c.

Additional:

1. Snell Richard S. Clinical Anatomy by Regions / R. S. Snell, 10th edition, 2018. - 816 p.
2. John T. Hansen. Netter’s Clinical Anatomy / John T. Hansen, 3 rdedition, 2014. - 546 p.: ill.

3. Farquharson's Textbook of Operative General Surgery:bttext book/Farguharson M., Hollingshead J., Moran B., 3rd 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

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 applicants provides means of self-control (tests, a package of control tasks).

Evaluation

Current success. Forms and methods of current control are carried out during classes and are aimed at checking applicants' 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 applicant 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: credit.

A credit is given to applicant who has completed all sections of the elective discipline's curriculum, has no academic debt, has a current average grade of at least 3.0 and at least a "satisfactory" grade for the final class.

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.