

DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY

Department of Otorhinolaryngology



“APPROVED”

First Vice-Rector on
Scientific and Pedagogical Work
Associate Professor Irina SOLONYNKO


_____ 2023

DISCIPLINE PROGRAM

OC-23.5 “OTORHINOLARYNGOLOGY”

Second (master’s) level of higher education

Field of Knowledge 22 “Healthcare”

Specialty 221 “Dentistry”

Faculty, year: Dentistry, 4th year

Discussed and approved at the
educational-methodical meeting of the
Department of Otorhinolaryngology
Minutes No 12 dated “08” June 2023
Head of the Department



Assoc. Prof. Oksana MOSKALYK

Approved
by the Profile Methodical Board on
Surgical Disciplines
Minutes No 20 dated 27 April 2023
Head of the Board



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The discipline program “Otorhinolaryngology” was developed and imported at the Department of Otorhinolaryngology of Danylo Halytsky Lviv National Medical University for the 4th year students of Dentistry Faculty by the Specialty 221 “Dentistry”.

Changes and additions to the study program of the discipline during 2024-2027 academic years.

No	Content of changes (additions)	Minutes of the meeting of the Department, date	Notes

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КАФЕДРА ЛОР ЛНМУ

INTRODUCTION

Description of the curriculum in the discipline "Otorhinolaryngology"

Due to Standard of high school *second (master) degree*

Branch of knowledge 22 «Healthcare»

specialty 221 «Dentistry»

qualification – Master of Dentistry

Course description (abstract)

The study of the discipline "**Otorhinolaryngology**" is carried out on the **4th year of studying**.

Otolaryngology is a clinical discipline that studies the anatomy, physiology and pathology of the ear, upper respiratory tract and adjacent areas. The importance and necessity of its teaching at the final stage of physician's preparation is due to the fact that diseases of the upper respiratory tract are on the first places among human diseases and make up about 15% of all admittance to medical institutions. In addition, treatment of ENT diseases in time is a prevention of various pathologies of the internal organs, contributes to the prevention of such serious chronic diseases as rheumatism, polyarthritis, pyelonephritis, cholecystitis, pathology of blood vessels, nervous system, organ of vision and thus leads to long-term preservation of working possibilities and life.

Since 2019, acute respiratory disease COVID-19, caused by the SARS-CoV-2 coronavirus, has been a topical issue in otorhinolaryngology, one of the symptoms of which is impaired smell. At the department of otorhinolaryngology, research work, patient questionnaires were conducted. Patients underwent a short test and sent screenshots. The obtained results were highlighted in the topics of classes (practical and independent work) for students and in scientific publications. In 2022, taking into account the military operations in Ukraine, there were questions and discussions about the provision of emergency medical aid to the population during military operations.

The program is designed to the integration of the educational process in high school and provides students with basic theoretical and clinical disciplines.

The discipline program consists of one module, which consists of the blocks of 4 content modules. The amount of student workload is described in ECTS credits - credits that are credited to students upon successful completion of the relevant module (credit).

Structure of educational discipline	Number of credits, hours				Year of study semester	Type of control
	All	Auditory		Independent work		
		Lectures (hours)	Practical classes (hours)			
Otorhinolaryngology <i>4 content modules</i>	2 credits ECTS/ 60 hours	6	24	30	4 year (VII semester)	credit

The subjects of study of the discipline are clinical anatomy, physiology, investigation methods of ENT organs, etiology, pathogenesis, diagnosis and treatment of the most common diseases of ENT organs.

Interdisciplinary connections

- medical and biological physics: to explain physical bases of diagnostic and physiotherapeutic (medical) methods used in medical equipment (PN.045); to interpret the general physical and biophysical patterns that underlie human life (PN.048);
- human anatomy, determine the topographic anatomical relationship of human organs and systems (PN.019); interpret sex, age and individual features of the structure of the human body (PN.033);
- microbiology, virology and immunology: to interpret the biological properties of pathogenic and non-pathogenic microorganisms, viruses and patterns of their interaction with macroorganism, with the human population and the external environment (PN.024); to interpret the basic mechanisms of the formation of the immune response of the human body (PN.052);
- histology, cytology and embryology: to interpret the microscopic structure of various organs of a person in the aspect of interconnections of tissues that are part of their composition in different age periods, as well as in the conditions of physiological and reparative regeneration (PN.051);
- physiology: to analyze the state of sensory processes in providing human life (PN.012); to explain the physiological bases of the methods of studying the function of the organism (PN.037);
- internal diseases: to determine the tactics of patient management in the most common therapeutic diseases (PP.053); to diagnose and provide emergency assistance for major emergency conditions in the Clinic of Internal Diseases (PP.085);
- surgery: to provide urgent medical care at the most common surgical diseases (PP.034); to plan a patient's examination, to interpret the results of laboratory and instrumental studies at the most common surgical diseases and their complications (PP.035);
- pathomorphology: to interpret etiology, pathogenesis and morphological changes at different stages of disease development, structural fundamentals of recovery, complications and consequences of diseases (PP.263);
- pathophysiology: to interpret the causes, mechanisms of development and manifestations of typical pathological processes (PP.208);
- radiology: to choose the optimal method of radiological examination for the detection of functional-morphological changes in the pathology of various organs and systems (PP.214);
- neurology: to determine the main symptoms and syndromes of lesions of different parts of the nervous system (PP.118);
- ophthalmology: to provide a preliminary diagnosis of the most common eye diseases and lesions (PP.257);
- phthisiology: to plan a survey of a patient with tuberculosis, to analyze the obtained data and to determine treatment regimens of patients with different clinical forms of tuberculosis (PP.076) and integrate with these disciplines;

1. Purpose and objectives of the discipline

1.1. The purpose of teaching the discipline "Otorhinolaryngology" is to master the methods of diagnosis, treatment and prevention of diseases of ENT-diseases, especially the most common.

To achieve this educational goal, the student must know: clinical anatomy and physiology of ENT organs and current methods of their investigation; etiology, pathogenesis, clinic, methods of treatment and prevention of diseases of the nose, paranasal sinuses, pharynx, larynx, external, middle and inner ear, as well as their complications.

1.2. The main tasks of studying the discipline "Otorhinolaryngology" are studying the anatomy, physiology and pathology of the ear, upper respiratory tract and adjacent areas.

The student should be able to: evaluate the results of the ENT examination; identify the most common ENT diseases and their complications; prescribe treatment for these diseases.

The student must master: typical endoscopic investigation methods of ENT organs; the most common practical skills; methods of first aid to patients with traumas, foreign bodies, bleeding from ENT-organs and stenosis of the upper respiratory tract.

The study of discipline involves the curation of patients with writing a medical history, solving situational tasks, conducting test, computer control in assessing the initial, current and final level of knowledge.

1.3 Competencies and learning outcomes facilitated by discipline (connections with the regulatory content of higher education applicants' training, formulated in terms of the learning outcomes of the Higher Education Standard).

In accordance with the requirements of the Higher Education Standard, the discipline provides students with **competencies**:

-general:

GC 1. Ability to abstract thinking, analysis and synthesis.

GC 2. Knowledge and understanding of the subject area and understanding of professional activity.

GC 3. Ability to apply knowledge in practical activities.

GC 4. Ability to communicate in the state language both orally and in writing.

GC 5. Ability to communicate in English.

GC 6. Skills in using information and communication technologies.

GC 7. Ability to search, process and analyze information from various sources.

GC 8. Ability to adapt and act in a new situation.

GC 9. The ability to identify, pose and solve problems.

GC 10. The ability to be critical and self-critical.

GC 11. Ability to work in a team.

GC 12. Efforts to preserve the environment.

GC 13. The ability to act socially responsibly and consciously.

GC 14. The ability to realize one's rights and responsibilities as a member of society, to realize the values of a civil (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine.

GC 15. The ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, techniques and technologies, use different types and forms motor activity for active recreation and leading a healthy lifestyle.

Special (professional, subject) competences (PC)

PC 1. Ability to collect medical information about the patient and analyze clinical data.

PC 2. Ability to interpret the results of laboratory and instrumental research.

PC 3. Ability to diagnose: determine preliminary, clinical, final, accompanying diagnosis, emergency conditions.

PC 4. Ability to plan and carry out measures for the prevention of diseases of the organs and tissues of the oral cavity and maxillofacial region.

PC 5. Ability to design the process of providing medical care: determine the approaches, plan, types and principles of treatment of diseases of the organs and tissues of the oral cavity and maxillofacial region.

PC 6. The ability to determine a rational regimen of work, rest, and diet in patients in the treatment of diseases of the organs and tissues of the oral cavity and maxillofacial region.

PC 7. The ability to determine the management tactics of patients with diseases of the organs and tissues of the oral cavity and maxillofacial region with concomitant somatic diseases.

PC 8. Ability to perform medical and dental manipulations.

PC 9. The ability to treat the main diseases of the organs and tissues of the oral cavity and maxillofacial area.

PC 10. Ability to organize and carry out medical evacuation measures.

PC 11. Ability to determine tactics, methods and provision of emergency medical assistance.

PC 12. Ability to organize and conduct a screening examination in dentistry.

PC 13. The ability to assess the impact of the environment on the state of health of the population (individual, family, population).

PC 14. Ability to maintain regulatory medical documentation.

PC 15. Processing of state, social and medical information.

PC 16. Ability to organize and carry out rehabilitation measures and care for patients with diseases of the oral cavity and ASHL.

PC 17. The ability to legally support one's own professional activity.

PC 18. The ability to provide pre-medical care according to the protocols of tactical medicine.

Detailing of competencies in accordance with the descriptors in the form of the "Competence Matrix".

Competence Matrix.

Competence	Knowledge	Skill	Communication	Autonomy and responsibility
Ability to perform a subtest on the test tasks of the professional guidance of the licensing exam KROK-2 and to pass the exam in the discipline of otolaryngology of direction as a component of the state qualification exam;	<i>To know:</i> - clinical anatomy and physiology of ENT organs and modern methods of their investigation; -etiology, pathogenesis, clinic, methods of treatment and prevention of diseases of the nose, paranasal sinuses, pharynx, larynx, external, middle and inner ear, as well as their complications.	<i>To be able:</i> - evaluate the results of the ENT examination; -recognize the most common ENT diseases and their complications; - prescribe the treatment of these diseases.	Interpersonal interaction with teachers, students, patients Subject-objective interaction of the use of educational material	Independence, responsibility

<p>Ability to master the technique of using the frontal reflector or headlight illuminator, learn the technique and practice the technique of endoscopic examination otolaryngological patient.</p>	<p><i>To know:</i> - procedure, technique and technique examination otolaryngological patient. - normal endoscopic picture of the nose, throat, larynx and ears, as well as possible typical abnormalities in their endoscopic picture. - clinical anatomy, ENT organs physiology, investigation methods.</p>	<p><i>To be able:</i> anterior and posterior rhinoscopy, oropharyngoscopy indirect laryngoscopy, otoscopy.</p>	<p>Interpersonal interaction communication with teachers, students, patients Subject-objective interaction of the use of educational material</p>	<p>Independence, responsibility</p>
<p>Ability to carry out medical consultations;</p>	<p><i>To know:</i> collect patient complaints, medical history, medical history, conduct examination: oropharyngoscopy, rhinoscopy, otoscopy, indirect laryngoscopy.</p>	<p><i>To be able:</i> - evaluate the results of the ENT examination; - recognize the most common ENT diseases and their complications; - prescribe the treatment of these diseases.</p>	<p>Interpersonal interaction communication with teachers, students, patients Subject-objective interaction of the use of educational material</p>	<p>Independence, responsibility</p>
<p>Ability to register a patient's medical history, establish a diagnosis, prescribe treatment;</p>	<p><i>To know:</i> describe and collect complaints, medical history of the patient's life, examination, to draw up a plan of examination, a plan of treatment.</p>	<p><i>To be able:</i> - evaluate the results of the ENT examination;</p>	<p>Interpersonal interaction communication with teachers, students, patients Subject-objective interaction of the use of educational material</p>	<p>Independence, responsibility</p>

Ability to conduct scientific research;	<i>To know:</i> writing reports, presentation design, application of literature	<i>To be able:</i> submit a report, to speak to an audience, answer the question	Interpersonal interaction communication with teachers, students, patients Subject-objective interaction of the use of educational material	Independence, responsibility
Ability to use modern information technology tools.	<i>To know:</i> writing reports, presentation design, application of literature	<i>To be able:</i> submit a report	Interpersonal interaction communication with teachers, students, patients Subject-objective interaction of the use of educational material	Independence, responsibility

Compliance with the definition of standards of learning outcomes and competencies.

Program learning result code (PLR)	Learning outcome	Competency code (GC, PC)
PLR1	Identify leading clinical symptoms and syndromes; according to standard methods, using the previous data of the patient's history, the data of the patient's examination, knowledge about the person, his organs and systems, establish a probable nosological or syndromic preliminary clinical diagnosis of dental disease.	GC1, GC2, GC3, GC4, GC5, GC6, GC7, GC8, GC9, GC10, GC11, GC12, GC13, GC14, GC15; PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC10, PC11, PC12, PC13, PC14, PC15, PC16, PC17, PC18, PC19, PC20, PC21, PC22, PC23, PC24, PC25.
PLR2	Collect information about the patient's general condition, evaluate the patient's psychomotor and physical development, the condition of the maxillofacial organs, based on the results of laboratory and instrumental studies, evaluate information about the diagnosis.	GC4, GC6, GC10, GC11, GC12; PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC10, PC11, PC12, PC13, PC14, PC15, PC17, PC19, PC20, PC24.
PLR3	Prescribe and analyze additional (mandatory and optional) examination methods	GC1, GC2, GC3, GC6, GC7, GC9, GC10, GC11,

	(laboratory, X-ray, functional and/or instrumental) of patients with diseases of the organs and tissues of the oral cavity and maxillofacial area for differential diagnosis of diseases.	GC12; PC1, PC2, PC3, PC11, PC18, PC19, PC20, PC21, PC22, PC23, PC24, PC25, PC26.
PLR4	Determine the final clinical diagnosis in compliance with the relevant ethical and legal norms, by making a reasoned decision and logical analysis of the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis under the control of the head physician in the conditions of a medical institution.	GC3, GC4; PC12, PC16, PC22, PC24.
PLR5	Diagnose emergency conditions under any circumstances (at home, on the street, in a medical facility), in emergency situations, martial law, lack of information, and limited time.	GC1, GC2, GC3, GC6, GC7; PC1, PC2, PC3, PC7, PC8, PC11, PC12, PC16, PC24.
PLR6	Plan and implement measures to prevent dental diseases among the population to prevent the spread of dental diseases.	GC1, GC2, GC3, GC6, GC7, GC8; PC1, PC2, PC3, PC7, PC8, PC11, PC16, PC24;
PLR7	Analyze the epidemiological situation and carry out mass and individual, general and local drug and non-drug prevention measures for dental diseases.	GC8; PC1, PC2, PC16, PC24.
PLR8	Determine the approach, plan, type and principle of treatment of dental disease by making a reasoned decision according to existing algorithms and standard schemes.	GC3, GC4; PC5, PC6, PC7, PC8, PC9, PC10, PC11, PC12, PC24.
PLR9	To determine the nature of the regime of work, rest and the necessary diet in the treatment of dental diseases on the basis of a preliminary or final clinical diagnosis by making a reasoned decision according to existing algorithms and standard schemes.	PC1, PC2, PC6, PC7, PC8, PC10, PC12;
PLR10	Determine the tactics of managing a dental patient with somatic pathology by making a reasoned decision according to existing algorithms and standard schemes.	GC4; PC4, PC5, PC24.
PLR11	Carry out treatment of basic dental diseases according to existing algorithms and standard schemes under the supervision of the head physician in the conditions of a medical institution.	GC4; PC1, PC2, PC3, PC6, PC7, PC8, PC12.
PLR12	To organize medical and evacuation measures among the population, military personnel, in emergency situations, including martial law, during the expanded stages of medical evacuation, taking into	GC3; PC1, PC2, PC3, PC6, PC7, PC8, PC12.

	account the existing system of medical evacuation support.	
PLR13	Determine the tactics of providing emergency medical care, using the recommended algorithms, under any circumstances based on the diagnosis of an emergency condition in a limited time.	GC5, GC7; PC1, PC7, PC8, PC9, PC10, PC11, PC22.
PLR14	Analyze and evaluate government, social and medical information using standard approaches and computer information technologies.	GC5, GC7, GC8; PC1, PC7, PC11, PC17, PC19, PC23.
PLR15	Assess the impact of the environment on the state of health of the population in the conditions of a medical institution according to standard methods.	GC7, GC8; PC18, PC19, PC21, PC22.
PLR16	To form goals and determine the structure of personal activity based on the result of the analysis of certain social and personal needs.	PC3, PC7, PC10, PC11, PC17.
PLR17	Follow a healthy lifestyle, use self-regulation and self-control techniques.	GC14, GC15; PC7, PC11, PC17.
PLR18	To be aware of and be guided in one's activities by civil rights, freedoms and obligations, to raise the general educational cultural level.	PC14.
PLR19	To comply with the requirements of ethics, bioethics and deontology in their professional activities.	GC10, GC11.
PLR20	To organize the necessary level of individual safety (own and the persons he cares for) in case of typical dangerous situations in the individual field of activity.	GC2, GC9, GC10.
PLR21	Perform medical manipulations on the basis of a preliminary and/or final clinical diagnosis for different segments of the population and in different conditions.	GC5; PC13, PC17.
PLR22	Perform medical dental manipulations on the basis of a preliminary and/or final clinical diagnosis for different segments of the population and in different conditions.	PC14, PC17.
PLR23	Perform emergency medical care manipulations using standard schemes under any circumstances based on the diagnosis of an emergency in limited time.	GC7.

Learning outcomes:

Integrative end programmatic learning outcomes facilitated by the discipline:

- collect data on the patient's complaints, medical history, medical history of the patient, conduct an examination of ENT-organs: rhinoscopy, pharyngoscopy, otoscopy, indirect laryngoscopy.

- evaluate the diagnosis information.

Learning outcomes for the discipline according to the levels of knowledge:

1. Remembering, Knowledge - the ability to memorize or reproduce facts (terms, specific facts, methods and procedures, basic concepts, rules and principles of holistic theories, etc.)
2. Comprehension, Understanding - the ability to understand and interpret what has been learned. It means the ability to explain facts, rules, principles; convert verbal material into, for example, mathematical expressions; predict future effects based on the knowledge gained.
3. Applying - the ability to use the material learned in new situations, for example, to apply ideas and concepts to accomplish specific tasks.
4. Analyzing - the ability to break information into components, understand their relationships and organizational structure, see errors and flaws in reasoning logic, the difference between facts and consequences, evaluate the significance of data.
5. Synthesis (Creation, Creating) - the ability to combine parts together to obtain a whole with a new system property.
6. Evaluation - the ability to evaluate the importance of material for a specific purpose.

1. Remembering knowledge:

- learn the material in otolaryngology (terms);
- master the lecture material related to the subject of the discipline;
- play material related to content module topics.

2. Understanding:

- to associate anatomy, physiology with the cause of ENT diseases;
- to classify diseases with ENT pathology;
- differentiate and analyze the timing of the disease;
- Diagnose and differentiate based on complaints, history, and objective data other diseases of ENT organs.
- on the basis of complaints, medical history to draw conclusions: to appoint methods examination and treatment of patients with ENT pathology.

3. Application:

- solving situational tasks;
- use of knowledge in practice;
- diagnosis of the patient;
- examination of the patient, manipulation.

4. Analysis:

- recognize and analyze diagnosis;
- combine knowledge of basic medical disciplines and general knowledge;
- Have information retrieval tools to demonstrate processing and analysis skills information received.

5. Synthesis:

- create oral and written presentation in the specialty;
- to formulate search results.

6 Evaluation:

- to choose the educational material independently while performing the tasks of independent work;
- to combine the acquired knowledge during self-control;
- to evaluate the accuracy of information on the subject of the discipline.

2. Information volume of the discipline

2 ECTS credits are allocated for the study of the discipline
60 hours.

If there is a need to structure the discipline into content modules:

Content modules:

1. Clinical anatomy, physiology, investigation methods of ENT organs.
2. Diseases of the ear.
3. Diseases of the upper respiratory tract.
4. Emergency care for diseases of ENT-organs.

Duration of practical training in otorhinolaryngology - **3 hours**. Clinical practice sessions consist of the following steps. The preparatory stage of the lesson consists of checking the presence of students and determining the topic and structure of the lesson. The main stage involves determining the students' up-to-date level of knowledge and considering the main issues of the topic of the lesson. This part of the class is about 20% of the practical training time. Then students under the guidance of the teacher in small groups (2-3 people) conduct curation of 3-4 thematic patients, mastering the necessary practical skills. At the end of the class, the teacher clarifies the students' learning of the material of the practical lesson, conducts correction of the level of knowledge and skills.

During the training, cycles of clinical disciplines will be rotated in accordance with the curriculum.

Students' current learning activities are monitored in practical classes according to specific goals. The following means of diagnostics of the level of preparation of students are applied: computer tests, solving of situational tasks, curation of thematic patients, interpretation of the data of laboratory and special researches characterizing the functional state of the upper respiratory tract and ears, control of practical skills, others.

Final control of the assimilation is carried out upon its completion.

Assessment of student achievement in the discipline is a rating and is ranked on a multi-scale scale as an arithmetic mean of mastering the module and has the ECTS system definition and the traditional scale adopted in Ukraine.

3. Structure of the discipline

Topic	lecture	Practical classes	Independent work	Individual work
Content module 1. Clinical anatomy, physiology, methods of investigation of ENT organs				
1. Topic 1. Introduction to specialty, Endoscopic examination of ENT. Clinical anatomy, physiology, methods of investigation of hearing and vestibular apparatus.	-	3	1	-
2. Topic 2. Clinical anatomy, physiology, methods of investigation of nose, paranasal sinuses, pharynx, larynx. Chemosensory and sinonasal dysfunction due to SARS-CoV-2 (COVID-19).	-	3	2	-
Total in content module 1	-	6	2	-
Content module 2. Ear diseases.				
1. Topic 3. Diseases of external and middle ear: impacted cerumen, external otitis, acute purulent otitis media, mastoiditis, antromastoidectomy. Complications.	1	3	2	-
2. Topic 4. Chronic ear diseases: chronic purulent otitis media (mesotympanitis, epitympanitis), labyrinthitis, ear surgery, tympanospaty. Complications. Nonpurulent ear diseases	1	3	2	-
Total in content module 2	2	6	4	-
Content module 3. Diseases of the upper respiratory tract.				
1. Topic 5. Acute and chronic nose diseases (including symptoms of SARS-CoV-2 (COVID-19)). Rhinological intracranial and orbital complications.	2	3	6	-
2. Topic 6. Acute and chronic pharyngeal diseases	1	3	6	-
4. Topic 7. Acute and chronic laryngeal diseases. Tumors and infectious granulomas of the ENT organs.	1	3	6	-
Total in content module 3	4	9	18	-
Content module 4. Emergency help for ENT diseases				
1. Topic 12. Traumas, foreign bodies and hemorrhages of the ENT, urgent care.	-	3	6	-
Total in content module 4	-	3	6	-
Total hours 60/1,5 credits ECTS	6	24	30	-
Final control				Credit

4. TOPIC PLAN OF LECTURES OF OTORHINOLARYNGOLOGY for Dentistry students

№	Topic	Hours
1.	Acute purulent otitis media. Mastoiditis. Chronic purulent and nonpurulent otitis media. Otogenic intracranial complications.	2
2.	Acute and chronic rhinosinusitis. Allergic rhinitis. Rhinogenic complications.	2

3.	Acute and chronic pharyngeal and laryngeal diseases.	2
	Total	6

5. TOPIC PLAN OF PRACTICAL LESSONS OF OTORHINOLARYNGOLOGY for Dentistry students

№	Topic of the lesson	Hours	Venue
1.	Endoscopic examination of ENT. Clinical anatomy, physiology, methods of investigation of hearing and vestibular apparatus.	3	Classroom, clinic units
2.	Clinical anatomy, physiology, methods of investigation of nose, paranasal sinuses, pharynx, larynx, bronchi and esophagus. Chemosensory and sinonasal dysfunction due to SARS-CoV-2 (COVID-19).	3	Classroom, clinic units
3.	Diseases of external and middle ear: impacted cerumen, external otitis, acute purulent otitis media. Mastoiditis. Complications.	3	Classroom, clinic units
4.	Chronic purulent otitis media and its complications. Labyrinthitis. Otogenic intracranial complications. Nonpurulent ear diseases.	3	Classroom, clinic units
5.	Acute and chronic nose diseases. Acute and chronic sinusitis (including symptoms of SARS-CoV-2 (COVID-19)). Rhinogenic intracranial and orbital complications.	3	Classroom, clinic units
6.	Acute and chronic pharyngeal diseases.	3	Classroom, clinic units
7.	Acute and chronic laryngeal diseases. Tumors of the ENT organs. Infectious granulomas of the upper airways.	3	Classroom, clinic units
8.	Traumas, foreign bodies and hemorrhages of the ENT, airways and esophagus, urgent care. Checkup.	3	Classroom, clinic units
	Total	24	

6. TOPIC LIST OF INDEPENDENT WORK OF OTORHINOLARYNGOLOGY for Dentistry students

№	Topic of a lesson	Hours
1.	Acute and chronic rhinosinusitis: diagnosis, treatment, indications for surgical treatment.	2
2.	Nasal valve, osteomeatal complex.	2
3.	Deformation of the external nose, rhinoplasty.	2
4.	Acute and chronic otitis: indications for surgical treatment.	2
5.	Functional voice disorders.	2
6.	Physiology of lymph adenoid pharyngeal ring	2

7.	Methods of olfactory research. Olfactory disorders due to SARS-CoV-2 (COVID-19). Rehabilitation methods for olfactory disorders.	2
8.	Complications of acute tonsillitis	2
9.	Allergic diseases of the ENT organs.	2
10.	Mycosis of the ENT organs.	2
11.	Phytotherapy in otorhinolaryngology.	2
12.	Physiotherapy in otorhinolaryngology.	2
13.	Nasal bleedings.	2
14.	Foreign bodies of the ENT organs.	2
15.	Pharyngeal cancer.	2
	Total	30

7. Teaching methods

During practical classes videos are shown where the teachers of the department describe the fundamental moments in the anatomy and physiology of ENT organs, as well as diagnostic methods of ENT diseases. In addition, clinical analyzes of individual situations are conducted on examples of patients of the clinic, situational problems are solved.

8. Control methods:

The discipline program consists of a module, consisting of 4 content modules. The amount of student workload is described in ECTS credits of credit credits, which are credited to students upon successful completion of the corresponding module (credit).

The discipline is structured into 1 module.

During the course of otorhinolaryngology, students have the opportunity to work with models who work on methods of diagnosis and treatment of certain ENT pathology. In the practical classes videos are shown where the teachers of the department describe the basic moments in the anatomy and physiology of ENT-organs, as well as methods of diagnosis of ENT-diseases. In addition, clinical analyzes of individual situations are conducted on the examples of patients of the clinic. Students supervise patients and write medical records. At each practical session each student solves a situational cases in the KROK-2 format.

Assessment of students' knowledge is done after completing all kinds of work, which the student is obliged to perform during current, final control, independent work, individual tasks and criteria for their assessment.

- Types of control (current and final)
- Form of final control according to the curriculum (credit, differentiated credit, exam)
- Evaluation criteria

Forms of control and evaluation of discipline

When assessing students' knowledge, preference is given to standardized methods of control: testing (oral, written, computer), structured writing, structured control of practical skills.

The discipline grade is defined as the average of the grades for the two modules into which the discipline is structured.

The module score is defined as the sum of the assessments of the current learning activity and the assessment of the final module control and is expressed by a 200 point system.

Forms of control

Current control is carried out at each practical session according to the specific objectives of the topic. All practical training is subject to objective control of theoretical training and the acquisition of practical skills.

Forms of current control:

Theoretical knowledge - test tasks, individual interviewing, interviewing, writing.

Practical skills and abilities - independent performance of examination and treatment of patients and ability to draw conclusions of the ability to independently perform separate examinations of manipulation, writing of medical histories.

9. Current control.

Assessment of current progress is carried out on every practical lesson on a 4-point scale scale. The current educational activity of students is controlled by practical classes in accordance with specific goals. The following means of diagnosing the level of preparation of students are used: descriptive theoretical issues, solving situational problems, course of thematic patients, interpreting data of laboratory and special studies characterizing the functional state of the upper respiratory tract and ear, control of practical skills, others.

Continuous control of the results of students' educational activities in the compulsory and selective disciplines is carried out in order to test the knowledge, skills and abilities of students during the classroom, as well as to check the results of the performance of independent work.

The task of current control is to check the level of student's readiness to perform a specific job: mastering the appropriate educational material, acquiring knowledge and skills to solve specific issues and situations, the ability to independently process texts, the ability to understand the essence of the content of the material of the material, the formation of skills to practice publicly or in writing substantiate your own point of view, ability to work in a team, ability to be responsible for the recommendations provided and decisions made, etc.

Current control is performed on the basis of a comprehensive assessment of the student's activities and acquired competences (knowledge, skills, etc.), which includes control of the entrance level of knowledge, quality of practical work, the level of theoretical training and the results of the initial control of the level of knowledge. Forms of current control are determined by the department and reflected in the curriculum of the discipline of Otolaryngology.

Forms of assessment of current educational activity at the department are standardized and include control of theoretical and practical training.

The results of current control (current achievement) are an indicator of the students 'level of mastering the curriculum and fulfill the requirements of students' independent work.

Assessment of students' current academic performance is carried out at each practical session on a 4-point scale, using approved assessment criteria for the discipline and recorded in the academic record of academic achievement. This takes into account all types of work and the list of competences provided by the program of the discipline and methodical development for the study of the topic. The student must receive a grade on each topic.

Students' knowledge is evaluated both from theoretical and practical training on such criteria:

"Excellent" – Student perfectly mastered the theoretical material shows a deep and comprehensive knowledge of the relevant subject or discipline, basic provision of scientific source material and recommended reading, logical thinking and builds respond freely use the acquired theoretical knowledge in the analysis of practical material expresses his attitude to various problems, demonstrates a high level of mastering of practical skills;

"Good" – The student has mastered theoretical material well, he has the main aspects from the primary sources and the recommended literature, he reasonably teaches him; has practical skills, expresses his thoughts on certain problems, but some inaccuracies and errors are assumed in the logic of presentation of theoretical content or in the analysis of practical;

"Satisfactory" – the student has mastered the theoretical knowledge of the discipline, is oriented in the primary sources and recommended literature, but is unconvincingly responsible, confuses the concept, additional questions cause the student uncertainty or lack of stable knowledge of practical nature, reveals inaccuracy in knowledge, does not know how to evaluate the facts and phenomena, 'suse them with future activities;

"Not deceptively" – the student has not mastered the educational material of the subject (discipline), does not know scientific facts, definitions, is almost not oriented in the primary sources and recommended literature, there is no scientific thinking, practical skills are not formed.

Control work for full-time students can be conducted in the form of testing; solving practical problems; solving practical situations; demonstration of practical skills.

The criteria for assessing each component of current control and the specific forms of control measures are defined in the course curriculum and reflected in appropriate methodological materials. The department informs students about the procedure, content and criteria of current control at the first lesson of the discipline.

A student is considered to be admitted to semester control (offset) if he has completed all types of work provided for by the curriculum and the work program.

11. The form of final control of the study is credit.

Semester credit is a form of final control, which consists in assessing the student's learning of the study material solely on the basis of the results of performing certain types of work in practical, seminars or laboratory classes. The semester credit for the subjects is taken after the completion of its study, before the exam session.

12. Score from the discipline "Otorhinolaryngology"

The maximum number of points, which student can gain for the current study activity for the semester for admission to the exam is 200 points.

The minimum number of points, which student should collect for the current study activity for the semester for admission to the exam is 120 points.

The calculation of the number of points is based on the student's assessment of the traditional scale during the study of discipline, by calculating the average arithmetic (CA), rounded to two decimal places. The resulting value is converted to a score on a multi-scale scale in this way:

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

Recalculate the average for current activity in a multi-scale scale

4-point scale	200-point scale
5	200
4.97	199
4.95	198
4.92	197
4.9	196
4.87	195
4.85	194
4.82	193
4.8	192
4.77	191
4.75	190
4.72	189
4.7	188
4.67	187
4.65	186
4.62	185
4.6	184
4.57	183
4.52	181
4.5	180
4.47	179

4-point scale	200-point scale
4.45	178
4.42	177
4.4	176
4.37	175
4.35	174
4.32	173
4.3	172
4.27	171
4.24	170
4.22	169
4.19	168
4.17	167
4.14	166
4.12	165
4.09	164
4.07	163
4.04	162
4.02	161
3.99	160
3.97	159
3.94	158

4-point scale	200-point scale
3.92	157
3.89	156
3.87	155
3.84	154
3.82	153
3.79	152
3.77	151
3.74	150
3.72	149
3.7	148
3.67	147
3.65	146
3.62	145
3.57	143
3.55	142
3.52	141
3.5	140
3.47	139
3.45	138
3.42	137
3.4	136

4-point scale	200-point scale
3.37	135
3.35	134
3.32	133
3.3	132
3.27	131
3.25	130
3.22	129
3.2	128
3.17	127
3.15	126
3.12	125
3.1	124
3.07	123
3.02	121
3	120
Less 3	Not enough

Independent work of students is evaluated during the current control of the topic in the relevant lesson. The assimilation of topics that are presented only for independent work is controlled by the final control.

13. Methodological support

1. Materials for preparation for lectures.
2. Presentation of lectures.
3. Preparation materials for practical classes
4. Methodical instructions for practical classes.
5. Tasks for students to work independently and individually.
6. Test tasks for the final test module control.
7. Test tasks for daily control.
8. Variants of theoretical questions for independent study

14. Recommended literature

Basic:

1. Otorhinolaryngology: textbook / Yu.V. Mitin, Yu.V. Deyeva, Ya.Yu. Gomza et al. — 6th edition. – Kyiv: «MEDICINE». – 2020. – 264 p.

Additional:

1. Cummings Otolaryngology: Head and Neck Surgery, Paul W. Flint; Bruce H. Haughey et al. - 7th edition. – Elsevier. – 2020. – 3568 p.

2. ENT Secrets. Melissa A. Scholes, Vijay R. Ramakrishnan. — 5th edition. – Elsevier. – 2022. – 604 p.

3. Roland, N. Key Topics in Otolaryngology and Head & Neck Surgery/ ed. : N. Roland, D. McRae, A. W. McCombe. - 3rd ed. - Stuttgart ; New York : Thieme, 2019. - 490 p. : il. - Index: p. 479-490. – ISBN 978-3-13-240477-9

4. Flint, P. W. Cummings Otolaryngology. Head and Neck Surgery : international edition / P. W. Flint, H. W. Francis, B. H. Haughey [et al.]. - 7th ed. - Philadelphia : Elsevier, 2021 - . - ISBN 978-0-323-61179-4. - Vol. 3. - 1316 p.

5. Fokkens W.J., Lund V.J., Hopkins C. et al. (2020) European Position Paper on Rhinosinusitis and Nasal Polyps 2020. Rhinology, 58(Suppl. S29): 1–464. doi: 10.4193/Rhin20.600.

15. Information resources

1. <https://www.bmj.com/>
2. <https://www.uptodate.com/>
3. <https://www.clinicalkey.com/>
4. <https://www.osmosis.org/>
5. <https://3d4medical.com/>
6. <https://pubmed.ncbi.nlm.nih.gov/>
7. website of the National Library of Ukraine named after V.I. Vernadsky
8. -website of the National Scientific Medical Library of Ukraine
9. -An electronic database of scientific publications from the National Medical Library of the National Institutes of Health of the United States.
10. Educational portal of NМУ named after O.O. Bogomolets.
11. <http://anatomia.at.ua/>
12. <http://www.anatomyatlases.org/>
13. <https://aucklandanatomy.com/>
14. <http://www.anatomatlas.com/>
15. <http://www.healthline.com/human-body-maps>