

MINISTRY OF HEALTH OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of Surgery with Postgraduate Education

APPROVED BY
Vice-Rector for Scientific and Pedagogical Work
Eduard Buryachkivskyi



WORKING PROGRAM OF THE ELECTIVE COURSE IN THE DISCIPLINE
" LIVER DISEASES. HEPATIC ECHINOCOCCOSIS "

Level of Higher Education: Second (Master's)

Field of Knowledge: 22 "Healthcare"

Specialty: 222 "Medicine"

Educational-Professional Program: "Medicine"

The work program is based on the educational and professional program "Medicine" for the training of specialists of the second (master's) level of higher education in the specialty 222 "Medicine" of the field of knowledge 22 "Healthcare", approved by the Academic Council of ONMedU (protocol No. 10 dated June 27, 2024) and the educational and professional program "Medicine" for the training of specialists of the second (master's) level higher education level in the specialty I 2 "Medicine" in the field of knowledge I "Healthcare and Social Security", approved by the Academic Council of ONMedU (protocol No. 10 dated June 26, 2025)

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The working program was approved at the meeting of the Department Surgery with Postgraduate Education

Protocol № 1 from "28" August 2025

Head of the Department

Agreed with the OPP guarantor



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Approved by the subject-cycle methodical commission on surgical disciplines Protocol № 1 from "28" August 2025

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Reviewed and approved at the meeting of the Department of Surgery Protocol ___ from ___ September ___
Head of the Department _____ Volodymyr GRUBNIK

1. Description of the Academic Discipline:

Indicators name	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline
Total number:	Field of Knowledge 22 "Healthcare" Specialty 222 "Medicine" Level of Higher Education Second (Master's)	<i>Full-time study</i>
Credits: 3		<i>Elective discipline</i>
Hours: 90		<i>Year of study: 6</i>
Content Modules: 1		<i>Semesters XI</i>
		<i>Lectures (0 hrs.)</i>
		<i>Practical (30 hrs.)</i>
		<i>Independent work (60 hrs.)</i>
		<i>Form of final control - credit</i>

2. Purpose and objectives of the academic discipline

Purpose: To acquire and deepen knowledge, skills, abilities, and other competencies necessary for professional activities, to develop skills in scientific research, to obtain new facts and implement them in practical medicine and other areas of social life.

Objectives:

1. To learn the basic principles of diagnosis in liver diseases of various etiologies.
2. To master the measures of providing assistance to patients with infectious, metabolic, autoimmune liver diseases.
3. To acquire knowledge in the interpretation of the dynamics of liver tests depending on the severity of chronic hepatitis and liver cirrhosis.
4. To learn the knowledge of the complex of therapeutic and diagnostic measures in infectious and non-infectious liver diseases.
5. To master the methodology of examining a patient with hepatitis and liver cirrhosis of various etiologies.
6. To acquire practical skills in providing first medical aid in liver coma.
7. To learn the basics of diagnosis and assistance in liver insufficiency.
8. To acquire knowledge of providing assistance at different stages of portal hypertension.
9. To develop moral-ethical and deontological qualities in professional communication with the patient.

The process of studying the discipline is aimed at forming elements of the following competencies

General (GC):

GC3. The ability to apply knowledge in practical situations.

GC4. Knowledge and understanding of the subject area and understanding of professional activity.

GC6. The ability to make justified decisions.

GC7. The ability to work in a team.

GC8. The ability to interpersonal interaction.

GC12. Determination and perseverance regarding set tasks and obligations.

Special (SC):

- SC1. The ability to collect medical information about a patient and analyze clinical data.
- SC2. The ability to determine the necessary list of laboratory and instrumental research and assess their results.
- SC3. The ability to establish a preliminary and clinical diagnosis of a disease.
- SC4. The ability to determine the necessary regime of work and rest in the treatment and prevention of diseases.
- SC5. The ability to determine the nature of nutrition in the treatment and prevention of diseases.
- SC6. The ability to determine the principles and nature of treatment and prevention of diseases.
- SC7. The ability to diagnose emergency conditions.
- SC8. The ability to determine tactics and provide emergency medical care.
- SC10. The ability to perform medical manipulations.
- SC11. The ability to solve medical problems in new or unfamiliar environments with incomplete or limited information, taking into account social and ethical appropriateness.
- SC16. The ability to maintain medical documentation, including electronic forms.

Learning Outcomes (LO):

- LO3. Specialized conceptual knowledge that includes scientific achievements in the field of healthcare and is the basis for conducting research, critical reflection of problems in the field of medicine and related interdisciplinary problems.
- LO4. Identify and identify leading clinical symptoms and syndromes; using standard techniques, based on previous patient history data, patient examination data, knowledge about a person, their organs, and systems, establish a preliminary clinical diagnosis of the disease.
- LO5. Collect complaints, life, and disease history, assess the psychomotor and physical development of the patient, the condition of the organs and systems of the body, based on the results of laboratory and instrumental research, assess information regarding the diagnosis.
- LO6. Establish a final clinical diagnosis by making a justified decision and analyzing obtained subjective and objective clinical data, additional examination, conducting differential diagnosis, adhering to relevant ethical and legal norms, under the control of a supervising doctor in a healthcare institution.
- LO7. Prescribe and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) for patients with diseases of organs and systems of the body for differential diagnosis of diseases.
- LO8. Determine the main clinical syndrome or symptom that determines the severity of the condition of the victim/sufferer by making a justified decision on the condition of a person under any circumstances (in a healthcare institution, outside it), including in emergency situations and combat operations, in field conditions, in conditions of lack of information and limited time.
- LO9. Determine the nature and principles of treatment of patients (conservative, surgical) with diseases, taking into account the age of the patient, in a healthcare institution, outside it and at the stages of medical evacuation, including in field conditions, based on a preliminary clinical diagnosis, adhering to relevant ethical and legal norms, by making a justified decision according to existing algorithms and standard schemes, if necessary expanding the standard scheme be able to justify personalized recommendations under the control of a supervising doctor in a medical institution.
- LO10. Determine the necessary regime of work, rest, and nutrition based on the final clinical diagnosis, adhering to relevant ethical and legal norms, by making a justified decision according to existing algorithms and standard schemes.

LO17. Perform medical manipulations in a medical institution, at home or in production based on a preliminary clinical diagnosis and/or indicators of the patient's condition by making a justified decision, adhering to relevant ethical and legal norms.

LO18. Determine the state of functioning and limitations of a person's life activity and the duration of disability with the preparation of relevant documents, in a healthcare institution based on data about the disease and its course, the specifics of a person's professional activity, etc. Keep medical documentation on the patient and the population contingent based on regulatory documents.

LO19. Plan and implement a system of anti-epidemic and preventive measures regarding the occurrence and spread of diseases among the population.

LO24. Organize the necessary level of individual safety (own and of persons cared for) in case of typical dangerous situations in the individual field of activity.

As a result of studying the academic discipline, the higher education seeker should:

know:

- and systematically understand the issue of peculiarities in the diagnosis of surgical liver diseases and echinococcosis, the development and progression of the disease for future professional and scientific activities;
- methods and criteria for evaluating research results regarding processes in surgical hepatology;
- main principles of analysis and synthesis of the results of scientific research in the field of liver surgery;
- clinical epidemiology, principles, methods, and achievements of evidence-based medicine in the treatment of hepatic echinococcosis;
- modern research methods, biomarkers of different processes and conditions in surgical hepatology, and their informativeness.

be able to:

- demonstrate knowledge of research methodology and methods in the diagnosis of liver diseases and echinococcosis;
- independently and critically conduct analysis and synthesis of scientific data in surgical hepatology;
- choose modern methods of diagnosis, treatment, and prevention of liver diseases, considering the patient's condition and age;
- use the results of scientific research in the field of surgical hepatology and pharmaceutical practice;
- present the results of scientific research in oral and written forms in the scientific community, in accordance with national and international standards;
- use ethical principles in working with patients of different age groups and genders, adhere to scientific and medical ethics;
- demonstrate academic integrity and act responsibly concerning the authenticity of obtained scientific results;
- evaluate information regarding the diagnosis based on the results of laboratory and instrumental studies, namely, determine the list of necessary clinical-laboratory and instrumental studies and evaluate their results in patients of different age groups and genders;
- determine the principles of treatment of diseases, the necessary regime of work and rest, and the nature of nutrition in patients of different age groups and genders.

3. Content of the academic discipline

Topic 1: Liver: Topography, Structure, Functions

Topic 2: Main Laboratory and Instrumental Research Methods in Hepatology

Topic 3: Gallstone Disease. Acute Cholecystitis.

Topic 4: Parasitic Liver Cysts, Hepatic Echinococcosis

Topic 5: Autoimmune Hepatitis

Topic 6: Toxic Chronic Hepatitis.

Topic 7: Alcoholic Liver Disease

Topic 8: Liver Cirrhosis

4. Structure of the Academic Discipline

	Topic	Practical classes	IW	Total
1.	Liver: Topography, Structure, Functions	5	5	10
2.	Main Laboratory and Instrumental Research Methods in Hepatology	5	5	10
3.	Gallstone Disease. Acute Cholecystitis.	5	10	15
4.	Parasitic Liver Cysts, Hepatic Echinococcosis	5	5	10
5.	Autoimmune Hepatitis	5	5	10
6.	Toxic Chronic Hepatitis.	5	5	10
7.	Alcoholic Liver Disease	5	5	10
8.	Liver Cirrhosis	5	10	15
Total		40	50	90
Total hours		90		

5. Topics of lectures / seminars / practical / laboratory classes

1. **5.1. Topics of lectures**

2. Not provided

3. **5.2. Topics of practical classes**

№ з/п	Topic	Number of hours
1	Liver: Topography, Structure, Functions. Metabolism in the liver. Liver blood circulation. Main functions of the liver. Age-related changes in liver mass.	5
2	Main Laboratory and Instrumental Research Methods in Hepatology. Clinical examination of patients with liver diseases. Syndromes and research methods in hepatology.	5
3	Gallstone Disease. Clinical Symptoms and Progression. Treatment of Gallstone Disease.	5
4	Parasitic Liver Cysts. Subjective and Objective Symptoms of Parasitic Liver Cysts. Diagnostic Criteria for Parasitic Liver Cysts. Histological Examination of Liver Biopsy. Treatment of Parasitic Liver Cysts.	5
5	Autoimmune Hepatitis. Definition and characteristics of disease onset. Main laboratory markers of autoimmune hepatitis. Instrumental research methods. Differential diagnosis. Algorithm of action for doctors in providing medical assistance to patients with autoimmune hepatitis.	5
6	Toxic Chronic Hepatitis. Definition, Main Clinical Forms. Laboratory tests for Toxic Chronic Hepatitis. Instrumental research methods. Differential diagnosis of Toxic Chronic Hepatitis. Main actions of doctors in providing medical assistance to patients with Toxic Chronic Hepatitis.	5
7	Alcoholic Liver Disease. Clinical manifestations. Laboratory and imaging	5

	examinations. Algorithm of action for doctors in providing medical assistance to patients with alcoholic hepatitis (alcoholic liver disease).	
8	Liver Cirrhosis. Definition and classification of liver cirrhosis. Signs of liver insufficiency. Portal hypertension and ascites: diagnosis and treatment.	5
Total		40

6. Independent work

№ п/п	Types of Independent Work	Number of hours
1	Liver: Topography, Structure, Functions. Anatomical structure of liver parenchyma. Histological structure of the liver. Segmental division of the liver. Liver cells and their ultrastructure.	5
2	Main Laboratory and Instrumental Research Methods in Hepatology. Criteria for liver diseases. Classification of functional liver tests. Endoscopic research methods in hepatology.	5
3	Gallstone Disease. Clinical Symptoms and Progression of Gallstone Disease. Main diagnostic markers for Gallstone Disease. Treatment of Gallstone Disease.	10
4	Parasitic Liver Cysts. Subjective and Objective Symptoms of Parasitic Liver Cysts. Diagnostic Criteria for Parasitic Liver Cysts. Histological examination of liver biopsy. Treatment of Parasitic Liver Cysts.	5
5	Autoimmune Hepatitis. Diseases associated with autoimmune hepatitis. Classification of autoimmune hepatitis based on the antibody profile. Dietary and lifestyle considerations in autoimmune hepatitis.	5
6	Toxic Chronic Hepatitis. Definition, Main Clinical Forms. Laboratory tests for Toxic Chronic Hepatitis. Instrumental research methods. Differential diagnosis of Toxic Chronic Hepatitis. Main actions of doctors in providing medical assistance to patients with Toxic Chronic Hepatitis.	5
7	Alcoholic Liver Disease. The effect of alcohol on the structure and functions of liver tissue. Key factors increasing the risk of developing alcoholic liver disease. Principles of treatment for alcoholic liver disease. Prognosis in the presence of alcoholic hepatitis.	5
8	Liver Cirrhosis. Main etiopathogenetic factors in the development of liver cirrhosis. Biochemical mechanisms in the pathogenesis of liver insufficiency. Pathogenesis of clinical symptoms of liver cirrhosis. Most important syndromes in liver cirrhosis.	10
Total hours		50

7. Teaching Methods

Practical classes: oral and written questioning, solving test tasks, solving typical and atypical situational problems, under the teacher's supervision, training of relevant practical skills and professional abilities on simulation models.

Independent work: independent work with recommended primary and additional literature, electronic information resources, independent mastering of communication algorithms with surgical patients.

8. Forms of control and methods of assessment (including criteria for assessing learning outcomes)

Current control: oral questioning, testing, assessment of practical skills performance, problem-solving.

Final control: credit.

Assessment of current academic activity in practical classes:

1. Assessment of theoretical knowledge on the topic of the class:
 - methods: questioning, solving a situational problem
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2.
2. Assessment of practical skills on the topic of the class:
 - methods: assessment of the correctness of practical skills performance
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2.

The score for one practical class is the arithmetic mean of all components and can only have an integer value (5, 4, 3, 2), rounded according to the method of statistics.

Criteria for current assessment in practical classes

Grade	Criteria for assessment
«5»	The learner actively participates in the discussion of the most complex issues of the topic, gives at least 90% correct answers to standardized test tasks, answers written tasks without errors, performs practical work, and completes the protocol.
«4»	The learner participates in the discussion of the most complex issues of the topic, gives at least 75% correct answers to standardized test tasks, makes minor errors in responses to written tasks, performs practical work, and completes the protocol.
«3»	The learner participates in the discussion of the most complex issues of the topic, gives at least 60% correct answers to standardized test tasks, makes significant errors in responses to written tasks, performs practical work, and completes the protocol.
«2»	The learner does not participate in the discussion of complex issues of the topic, gives less than 60% correct answers to standardized test tasks, makes gross errors in responses to written tasks or does not provide answers to them, does not perform practical work, and does not complete the protocol.

A credit is awarded to a learner who has completed all tasks of the course's work program, actively participated in practical classes, completed and defended an individual task, and has an average current score of at least 3.0 with no academic debts.

The credit is carried out: at the last class before the start of the examination session - with a ribbon system of training, at the last class - with a cyclical system of training. The score for the credit is the arithmetic mean of all components on the traditional four-point scale and has a value rounded according to the method of statistics to two decimal places.

9. Distribution of points earned by higher education seekers

The average score obtained for the academic discipline by learners who have successfully mastered the work program of the academic discipline is converted from the traditional four-point scale to points on a 200-point scale, as shown in the table:

Conversion table of traditional grades to a multi-point scale

Traditional four-point scale	Multi-point 200-point Scale
Excellent («5»)	185 – 200
Good («4»)	151 – 184
Satisfactory («3»)	120 – 150
Unsatisfactory («2»)	Below 120

The multi-point scale (200-point scale) reflects the actual success of each learner in mastering the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point scale is performed by the University's Information and Technical Department.

According to the points obtained on the 200-point scale, the achievements of the learners are assessed on the ECTS rating scale. Further ranking on the ECTS scale allows assessing the achievements of learners in an educational component who are studying in the same course of the same specialty, according to their scores.

The ECTS scale is a relative-comparative rating, which establishes the learner's belonging to the best or worst group among the reference group of peers (faculty, specialty). The grade "A" on the ECTS scale cannot be equivalent to the grade "excellent", and the grade "B" – to the grade "good", etc. When converting from a multi-point scale, the boundaries of the grades "A", "B", "C", "D", "E" on the ECTS scale do not coincide with the boundaries of the grades "5", "4", "3" on the traditional scale. Learners who received grades "FX" and "F" ("2") are not included in the ranking list. The grade "FX" is given to learners who have scored the minimum number of points for current academic activity but have not passed the final control. The grade "F" is given to learners who attended all classes in the discipline but did not score an average grade (3.00) for current academic activity and were not allowed to take the final control. Learners studying in the same course (of the same specialty), based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Conversion of traditional discipline grades and total points on the ECTS scale

ECTS Scale Grade	Statistical indicator
A	Top 10% of learners
B	Next 25% of learners
C	Next 30% of learners
D	Next 25% of learners
E	Next 10% of learners

10. Methodological Support:

- Working program of the academic discipline
- Syllabus of the academic discipline
- Multimedia presentations
- Situational tasks
- Methodical developments of practical classes
- Methodical recommendations for independent work of learners

11. Questions for Final Control

1. Liver: Topography, Structure, Functions.
2. Characteristics of metabolism in the liver. Liver blood circulation. Main functions of the liver. Age-related changes in liver mass.
3. Main Laboratory and Instrumental Methods in Hepatology.

4. Clinical Examination of Patients with Liver Diseases. Syndromes and Methods of Examination in Hepatology.
5. Gallstone Disease. Clinical Symptoms and Progression. Treatment of Gallstone Disease.
6. Parasitic Liver Cysts. Subjective and Objective Symptoms of Parasitic Liver Cysts. Diagnostic Criteria.
7. Parasitic Liver Cysts. Histological Examination of Liver Biopsy.
8. Treatment of Parasitic Liver Cysts.
9. Autoimmune Hepatitis.
10. Definition and Characteristics of the Onset of the Disease. Main Laboratory Markers of Autoimmune Hepatitis. Instrumental Research Methods. Differential Diagnosis. The Algorithm for Doctors in Providing Medical Assistance to Patients with Autoimmune Hepatitis.
11. Toxic Chronic Hepatitis. Definition, Main Clinical Forms.
12. Laboratory Tests for Toxic Chronic Hepatitis.
13. Instrumental Research Methods. Differential Diagnosis of Toxic Chronic Hepatitis. Main Actions of Doctors in Providing Medical Assistance to Patients with Toxic Chronic Hepatitis.
14. Alcoholic Liver Disease.
15. Clinical Manifestations. Laboratory and Imaging Studies. The Algorithm for Doctors in Providing Medical Assistance to Patients with Alcoholic Hepatitis (Alcoholic Liver Disease).
16. Liver Cirrhosis.
17. Definition and Classification of Liver Cirrhosis. Signs of Liver Insufficiency.
18. Portal Hypertension and Ascites: Diagnosis and Treatment.

12 . Recommended Literature

Primary:

1. Surgery: Textbook / Ya.S. Bereznytsky, O.V. Belov, B.S. Zaporozhchenko, et al. // Vinnytsia: Nova Knyha, 2020. - 528 p.
2. Surgery (basic textbook) volume 3 (book 3 - adjacent specialties for surgical interns) Textbook / edited by G.V. Dzyak - Dnipro: RVA "Dnipro-VAL", 2014. - 828 p.
3. Surgery. Textbook edited by M.P. Zaharash, O.I. Poyda, M.D. Kucher. Kyiv, "Medicine", 2014, 656 p.
4. Surgery. Study guide. Part 1 edited by O.B. Kutovyi. Dnipro, 2015, 287 p.

Additional:

1. Gallstone disease: diagnosis and management. NICE Clinical guideline [CG 188] 2014. Available at <https://www.nice.org.uk/guidance/cg188/chapter/1-recommendations/>
2. Lectures on hospital surgery in 3 volumes. Edited by V.G. Mishalov. "Askania", Kyiv, 2008.
3. Surgical diseases. Textbook edited by P.G. Kondratenko. Kharkiv, "Fact", 2006. - 816 p.
4. Surgery: Textbook / edited by A.Ya. Kovalchuk - Ternopil: TDMU, 2010. - 1056 p.

13. Information resources:

1. Website of the Department of Surgery: <https://info.odmu.edu.ua/chair/surgery2>
2. Ministry of Health of Ukraine: <http://moz.gov.ua/>
3. National Scientific Medical Library of Ukraine: <http://www.library.gov.ua/>
4. Testing Center of the Ministry of Health of Ukraine: <http://testcentr.org.ua/>
5. English-language web resource for doctors and other healthcare professionals: <http://www.medscape.com>
6. English-language textual database of medical and biological publications: <http://www.pubmed.com>

7. English-language web resource for doctors and other healthcare professionals:
<https://emedicine.medscape.com/pulmology>