



**CD 8.5.1 DISCIPLINE SYLLABUS
FOR UNIVERSITY STUDIES**

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FACULTY OF MEDICINE

STUDY PROGRAM 0912.1 MEDICINĂ

**DEPARTMENT OF INTERNAL MEDICINE
DISCIPLINE OF GASTROENTEROLOGY**

APPROVED

at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum in Medicine

Minutes No. 7 of 17.06.24

Chairman PhD, professor

Andrei Pădure

APPROVED

at the Council meeting of the Faculty of Medicine

Minutes No. 10 of 18.06.24

Dean of Faculty PhD, professor

Gheorghe Plăcintă

APPROVED

approved at the meeting of the Discipline of gastroenterology

Minutes No. 9 of 17.05.2024

Head of Discipline, PhD, professor,

Eugen Tcaciuc

SYLLABUS

DISCIPLINE INTERNAL MEDICINE. GASTROENTEROLOGY

Integrated studies

Type of course: **Compulsory**

Syllabus elaborated by the authors:

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Elina Berliba, PhD, associate professor

Angela Peltec, PhD, professor

Chişinău, 2024



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I. INTRODUCTION

- Discipline **Internal Medicine. Gastroenterology** is an integrative, interdisciplinary, corrective clinical medical discipline, the study of which at the university level will allow the creation of the necessary skills to suggest and support a correct diagnosis based on anamnesis, clinical and paraclinical examination, acquiring the necessary notions for differential diagnosis and creating the necessary skills to solve emergencies, master the elements of prophylaxis and treatment of gastroenterological and liver diseases.

- Mission of the curriculum (aim) in professional training

Consolidation of the fundamental knowledge related to the pathology of the gastrointestinal and hepatobiliary organs and their implementation in practice; knowledge of the evolution, diagnosis, correct treatment and prophylaxis of gastrointestinal and hepatobiliary diseases, development of clinical reasoning and medical synthesis - defining elements in the training of physician.

- Language (s) of the discipline: Romanian, Russian, English, French.
- Beneficiaries: students of the Vth year, Faculty of Medicine.

II. MANAGEMENT OF THE DISCIPLINE

Code of discipline		S.10.O.086	
Name of the discipline		Internal Medicine. Gastroenterology	
Person(s) in charge of the discipline		Eugen Tcaciuc, PhD, professor Elina Berliba, PhD, associate professor Angela Peltec, PhD, professor	
Year	5	Semester/Semesters	9-10
Total number of hours, including:			150
Lectures	30	Practical/laboratory hours	30
Seminars	30	Self-training	60
Form of assessment	E	Number of credits	5

III. TRAINING AIMS WITHIN THE DISCIPLINE



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At the end of the discipline study the student will be able to:

- **at the level of knowledge and understanding:**
 - to recognize the gastroenterological diseases in a patient;
 - to know the features of the onset and evolution of different diseases of the digestive system;
 - to understand the methods and particularities of the examination of patients with various digestive disorders;
 - to know the indications and ways of transfer of patients to specialised departments;
 - to know the incidence, aetiology and pathogenesis of gastroenterological and liver diseases;
 - to know the modern diagnostic methods (emergent and scheduled) of gastroenterological and liver diseases;
 - to know modern treatment methods for gastroenterological and liver diseases;
 - To know the prophylaxis methods of chronic and acute pathologies of the digestive organs.
- **at the application level:**
 - to apply theoretical knowledge in professional and social life;
 - to collect and evaluate correctly the complaints and the anamnesis data;
 - to perform correct physical examination of patients with different digestive pathologies;
 - to make a correct presumptive diagnosis;
 - to apply methods of investigation necessary to confirm the diagnosis;
 - to estimate the results of paraclinical and instrumental investigations;
 - to assess the severity of the patient's general state;
 - to establish the final diagnosis;
 - selecting and prescribing the correct treatment according to the established diagnosis;
 - to provide emergency care in critical situations.
 - completing and drafting the medical documents;
 - elaborating the scientific research projects in the field of gastroenterology.
- **at the integration level:**
 - to appreciate the role of digestive diseases in medicine and integration with related medical disciplines;
 - to assess the evolution of physiological processes, aetiology and pathophysiology of adult pathological processes;
 - to develop clinical thinking further, based on the principles of diagnosis, differential diagnosis of various nosology and strictly individualized treatment;
 - to approach creatively the gastroenterological problems;
 - to deduct the interrelation between gastroenterology and other medical disciplines (internal medicine, physiology, oncology, endocrinology, etc.);
 - to evaluate objectively and self-assess the knowledge in the field;
 - to consolidate knowledge and gain experience in diagnosis, differential diagnosis and treatment in gastroenterology;
 - to master the new achievements in the gastroenterology discipline.
 - to assimilate new trends in the gastroenterology and liver diseases field and to integrate them in other medical disciplines.



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IV. PROVISIONAL TERMS AND CONDITIONS

For the good acquisition of the discipline of **Internal Medicine. Gastroenterology** requires deep knowledge in the field of disciplines studied in previous years (medical semiology, internal medicine, pathological anatomy and histology, normal and pathological physiology, surgery, oncology, radiology and medical imaging, endocrinology, etc.).

V. THEMES AND ESTIMATE ALLOCATION OF HOURS

Lectures, practical hours/ laboratory hours/seminars and self-training

No. d/o	THEME	Number of hours		
		Lectures	Practical hours	Self-training
1.	Gastroesophageal reflux disease. Definition, classification, aetiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis, complications, treatment, prevention, prognosis. Barrett oesophagus. Oesophageal Motility Disorders (Oesophageal spasm, Achalasia). The differential diagnosis.	2	4	4
2.	Acute and chronic gastritis. Definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, treatment, prevention, prognosis.	2	4	4
3.	Peptic ulcer. Definition, aetiology, classification, factors of aggression, factor of protection, pathogenesis, clinical features, positive and differential diagnosis. Complications. Pharmacological treatment and non-pharmacological therapy. Prevention and prognosis.	2	4	4
4.	Chronic pancreatitis. Definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, complication, treatment, prevention, prognosis.	2	4	4
5.	Small intestine pathology. Malabsorption syndrome. Definition, classification, aetiology, clinical feature, positive diagnosis. Diarrhea, definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis. Gluten enteropathy. Definition, classification, aetiology, pathogenesis, clinical feature, diagnosis, treatment, prevention, prognosis.	2	4	4
6.	Inflammatory bowel disease. Crohn's disease and Ulcerative Colitis. Definition, classification, aetiology, pathogenesis, clinical features, positive and differential diagnosis, complications, treatment, prevention, prognosis. Pseudomembranous colitis.	2	4	4
7.	Functional gastrointestinal disorders. Functional oesophageal, gastroduodenal, and bowel disorders. Definition,			



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No. d/o	THEME			
		Number of hours		
	classification, aetiology, pathogenesis, clinical features, alarm signs, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis. Gallbladder and Sphincter of Oddi functional disorders - definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis. CUSIM (standardized patients with simulated clinical scenarios).	2	4 CUSIM	4
8.	Chronic viral hepatitis type B, D. Definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, prevention, prognosis. Treatment of chronic viral hepatitis B and D.	2	4	4
9.	Chronic viral hepatitis type C. Definition, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, prevention, and prognosis. Treatment of chronic viral hepatitis C.	2	4	4
10.	Liver cirrhosis. Definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, prognostic scores, prevention, prognosis. Portal hypertension and its complications in liver cirrhosis – pathogenesis, clinical features, diagnosis, prevention, and therapy.	2	4	4
11.	Liver cirrhosis. Complications of liver cirrhosis: ascites (uncomplicated and refractory) and hepatic hydrothorax; spontaneous bacterial peritonitis; renal impairment in liver cirrhosis; hepatic encephalopathy – pathogenesis, clinical features, diagnostic and treatment.	2	4	4
12.	Alcohol-related liver disease. Definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, treatment, prevention, prognosis. Acute alcoholic hepatitis, pathogenesis, clinical features, diagnosis, treatment, prognosis.	2	4	4
13.	Metabolic dysfunction-associated steatotic liver disease. Definition, classification, aetiology, pathogenesis, clinical features, positive and differential diagnosis, treatment, prevention, prognosis.	2	4	4
14.	Primary Biliary Cholangitis, Primary Sclerosing Cholangitis, Cholangitis associated with IgG ₄ . Definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis. Autoimmune Hepatitis. Definition, classification, aetiology, pathogenesis, clinical features, diagnosis, treatment, prognosis. CUSIM (standardized patients with simulated	2	4 (CUSIM 2)	4

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No. d/o	THEME			
		Number of hours		
	clinical scenarios).			
15.	Inherited metabolic liver disease (Hemochromatosis, Wilson's disease, α (1)-antitrypsin-deficiency). Definition, aetiology, pathogenesis, clinical features, diagnosis, complications, treatment, prevention, prognosis. CUSIM (standardized patients with simulated clinical scenarios).	2	4 CUSIM	4
Total		30	60 (10 CUSIM)	60

VI. PRACTICAL TOOLS PURCHASED AT THE END OF THE COURSE

Mandatory essential practical tools are:

- Objective examination in digestive diseases
- General inspection of the patient suffering from digestive tract pathology with identification of clinical signs and symptoms according to the respective disease
- Palpation of the abdomen (superficial and deep palpation after Obraztsov-Strajesco)
- Percussion. Appreciation of the liver size according to Curlov
- Liver palpation and appreciation of the size, consistency, surface, and edge of the liver
- Percussion and palpation of the spleen
- Painful spots and areas, found in chronic pancreatitis
- Painful spots and areas, detected in the pathologies of the biliary system
- Diagnostic and therapeutic abdominal paracentesis with the interpretation of the ascitic fluid results
- Performing the evacuation enema
- Rectal examination
- Peculiarities of emergency aid in upper gastrointestinal bleeding (oesophageal varices, peptic ulcer, etc.)
- Calculation and interpretation of APRI, FIB-4 tests for non-invasive assessment of liver fibrosis
- Calculation and interpretation of Child-Pugh, MELD-Na scores for prognostic evaluation of liver cirrhosis
- Calculation and interpretation of Maddrey score for the prognostic evaluation of alcoholic hepatitis
- Performing and interpreting the test for liver encephalopathy assessment
- Clinical assessment of nutritional status in patients with malabsorption syndrome, chronic pancreatitis, MAFLD, cirrhosis (anthropometric measurements - body mass, height, BMI, waist circumference, thigh, cutaneous fold on the triceps, resistance of the hand)
- Use of the AUDIT-C score to assess problematic alcohol use (Alcohol-related liver disease, chronic pancreatitis)

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- Calculation and interpretation of Truelove / Witts scores to assess activity degree in ulcerative colitis
- Calculation and evaluation of the activity index in Crohn's disease after W. Best
- Interpretation of the stool characteristics using the Stool Bristol scale
- Determining and interpreting changes in blood count, urine, immunochemical indices, acid-base balance, and coagulogram.
- Interpreting laboratory test results (specific to digestive pathology) biochemical blood, urine, stool, gastric and duodenal contents.
- Reading of the results of functional examination of the oesophagus, stomach, liver, gallbladder, bile ducts, pancreas, small intestine and large intestine.
- Comprehension of oesophageal and gastric pH metrics results.
- Understanding the radiological examination of the gastrointestinal tract and the hepato-biliary system.
- Interpretation of histopathological examination results (oesophagus, stomach, liver, intestine).
- Reading upper endoscopy, colonoscopy, rectoromanoscopy, endoscopic retrograde cholangiopancreatography and laparoscopy results.
- Ultrasound examination of the abdominal cavity.
- Drawing up a plan for paraclinical investigations for a patient with digestive pathology
- Performing a diagnostic synthesis in digestive pathology
- Establishing the presumptive and clinical diagnosis
- Completion of the medical file of the patient with digestive diseases
- To carry out therapeutic syntheses with the correct indication and prescription of treatment in gastroenterological pathologies
- To complete the medical documentation according to the legislation in force

Note: The essential practical tools characteristic of the discipline, obligatory to be acquired by each student during the module, will be listed. These will serve as a basis for the stage of evaluating practical skills and will constitute their portfolio per study program.

VII. OBJECTIVES AND CONTENT UNITS

For each subject provided by the program, the students will have to:

- **define** the syndrome discussed in each theme;
- **to know:**
 - the syndrome, which includes pathophysiology, semiology, modern methods of investigation, meaning of the syndrome for nosology diagnosis;
 - the diseases that are manifested by the concerned syndrome;
 - the incidence, modern aspects of aetiology and pathogenicity of the diseases discussed in each subject;
 - the clinical and paraclinical (laboratory and instrumental) diagnosis of each nosology entity with its reasons;
- **to demonstrate the ability:**
 - of performing the clinical and paraclinical (laboratory and instrumental) diagnosis of each entity with its reasoning;
 - to perform the differential diagnosis and its arguments;



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- to develop the clinical diagnosis (disease, complications and comorbidities);
- to draw up the paraclinical examination plan with its deductions;
- to draw up the personalized treatment plan (basic illness and comorbidities) with its interpretations;
- **to apply:**
 - the knowledge and practical skills learned;
 - a proper algorithm of diagnosis, differential diagnosis and treatment in emergency cases;
 - the knowledge regarding the completion of medical documentation (observation sheet, transfer and discharge, extract from the observation sheet, statistical data sheet).
- **to integrate** knowledge in the fields of fundamental, preclinical, and clinical disciplines.

Objective	Content units
Theme (chapter) 1. Gastroesophageal reflux disease. Oesophageal Motility Disorders.	
<ul style="list-style-type: none"> • to define the fundamental concepts of gastroesophageal reflux disease, Barret's oesophagus, and achalasia; • to know the research methods in oesophageal pathology; • to demonstrate skills of analysis and systematization of knowledge in oesophageal pathology; • to apply the criteria for differentiating pathological conditions of the esophagus (gastroesophageal reflux disease, achalasia, Barret oesophagus); • to integrate in medical practice the methods of diagnosis, treatment, and prophylaxis in oesophageal pathology. 	<ol style="list-style-type: none"> 1. Gastroesophageal reflux disease. Definition, classification, aetiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis, complications, treatment, prevention, prognosis. 2. Barrett oesophagus. Definition, classification, aetiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis, complications, treatment, prevention, prognosis. 3. The differential diagnosis of esophagitis, complications, treatment, prophylaxis, prognosis. 4. Oesophageal Motility Disorders (Oesophageal spasm, Achalasia). Definition, classification, aetiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis, complications, treatment, prevention, prognosis.
Theme (chapter) 2. Acute and chronic gastritis. Peptic ulcer.	
<ul style="list-style-type: none"> • to define the peptic ulcer; • to know the anatomy and physiology of the stomach; • to know the basic international classifications in acute and chronic gastritis; • to know the laboratory and instrumental diagnostic methods in establishing gastric and duodenal ulcer and acute and chronic gastritis; 	<ol style="list-style-type: none"> 1. Acute and chronic gastritis. Definition, classification, aetiology, pathogenesis, 2. Acute and chronic gastritis - clinical picture, positive and differential diagnosis, complications. 3. Acute and chronic gastritis, treatment, prophylaxis, prognosis.



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Objective	Content units
<ul style="list-style-type: none">• to establish criteria for differentiating between gastric and duodenal ulcers;• to demonstrate skills in analyzing the causes of gastric and duodenal ulcers.• to apply the knowledge acquired for the analysis of case studies;• to integrate knowledge from medical practice for methods of diagnosis, treatment, and prophylaxis in gastric pathology	<ol style="list-style-type: none">4. Peptic ulcer. Definition, aetiology, pathogenesis (factor of aggression and defence)5. Peptic ulcer. Clinical picture, positive diagnosis, differential diagnosis.6. Peptic ulcer. Complications. Drug and non-drug treatment. Prevention and prognosis.7. Functional dyspepsia. Definition, classification, aetiology, pathogenesis, clinical picture, diagnostic criteria, differential diagnosis, treatment, prophylaxis, prognosis.
Theme (chapter) 3. Chronic pancreatitis. Functional gastrointestinal disorders.	
<ul style="list-style-type: none">• to define the notion of chronic pancreatitis;• to define the notion of functional disorders of the oesophagus, stomach, biliary tract and bowel;• to know the classification, aetiology, pathogenesis and clinical picture;• to know and motivate clinical, laboratory and instrumental diagnostic methods;• to comment on the possible complications of chronic pancreatitis and functional disorders of the oesophagus, stomach, biliary tract and bowel;• to apply the criteria for differentiating different pathologies of the pancreas;• to develop their own opinions regarding the importance of the pancreas in the normal and pathological physiology of the organism, as well as its interactions with other systems and organs;• to define the notion of functional disease;• to know the classification of functional disorders, diagnostic criteria, and differential diagnosis with organic pathologies.• to apply modern treatment methods in various functional digestive disorders	<ol style="list-style-type: none">1. Chronic pancreatitis. Definition, classification, aetiology, pathogenesis, clinical feature.2. Chronic pancreatitis. Positive and differential diagnosis, complication, treatment, prevention, prognosis.3. Functional oesophageal disorders. Definition, classification, aetiology, pathogenesis, clinical features, alarm sign, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis.4. Functional gastric disorders. Definition, classification, aetiology, pathogenesis, clinical features, alarm sign, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis.5. Functional bowel disorders. Definition, classification, aetiology, pathogenesis, clinical features, alarm sign, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis.6. Gallbladder and Sphincter of Oddi functional disorders- definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.
Theme (chapter) 4. Small intestine pathology. Inflammatory bowel disease. Crohn's disease and Ulcerative Colitis.	



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Objective	Content units
<ul style="list-style-type: none">• to define the notion of diarrhea and malabsorption;• to know the anatomical and physiological aspects of the small intestine and the large intestine;• to know the etiopathogenetic mechanism of diarrhea and constipation;• to know the laboratory and instrumental methods in the pathology of the small intestine and the large intestine;• to demonstrate skills of analysis and systematization of knowledge in the pathology of the small intestine and large bowel;• to apply the differentiation criteria in inflammatory bowel diseases;• to integrate in medical practice the methods of diagnosis, treatment and prophylaxis in inflammatory bowel diseases.	<ol style="list-style-type: none">1. Small bowel pathology.2. Diarrhea, definition, classification, aetiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.3. Gluten enteropathy. Definition, classification, aetiology, pathogenesis, clinical feature,4. Gluten enteropathy. Diagnosis, treatment, prevention, prognosis.5. Inflammatory bowel disease. Crohn's disease and Ulcerative Colitis. Definition, classification, aetiology, pathogenesis, clinical features.6. Inflammatory bowel disease. Crohn's disease and Ulcerative Colitis. positive and differential diagnosis, complications, treatment, prevention, prognosis.
Theme (chapter) 5. Chronic viral hepatitis type B, C, D. Autoimmune Hepatitis.	
<ul style="list-style-type: none">• to define the notion of chronic hepatitis;• to know the anatomy and physiology of the liver;• to know the current etiopathogenetic and therapeutic aspects in chronic viral hepatitis;• to know the laboratory and instrumental diagnostic methods in the detection of chronic viral hepatitis B, C, D;• to motivate the occurrence of complications in case of hepatitis progression;• to demonstrate skills of analysis and systematization of knowledge in the diagnosis of chronic viral hepatitis;• to apply the differentiation criteria in chronic viral hepatitis;• to integrate in medical practice the methods of diagnosis, treatment and prophylaxis in autoimmune hepatitis.	<ol style="list-style-type: none">1. Chronic viral hepatitis type B, D. Definition, classification, aetiology, pathogenesis, clinical feature.2. Chronic viral hepatitis type B, D. Positive and differential diagnosis, complications, prevention, prognosis.3. Chronic viral hepatitis type B, D. Treatment of chronic viral hepatitis B and D.4. Chronic viral hepatitis type C. Definition, aetiology, pathogenesis, clinical feature.5. Chronic viral hepatitis type C. Positive and differential diagnosis, complications, prevention, and prognosis.6. Chronic viral hepatitis type C. Treatment of chronic viral hepatitis C.7. Autoimmune Hepatitis. Definition, classification, aetiology, pathogenesis, clinical features,8. Autoimmune Hepatitis. Diagnosis, treatment, prognosis.
Theme (chapter) 6. Liver cirrhosis. Primary Biliary Cholangitis, Primary Sclerosing Cholangitis.	
<ul style="list-style-type: none">• to define the notion of liver cirrhosis;• to know the anatomy and physiology of the liver;	<ol style="list-style-type: none">1. Liver cirrhosis. Definition, classification, aetiology, pathogenesis, clinical picture.



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<ul style="list-style-type: none">• to study the laboratory and instrumental diagnostic methods in establishing the diagnosis of liver cirrhosis;• to explain the occurrence of severe complications in case of liver cirrhosis;• to apply the differentiation criteria in liver cirrhosis and its complications;• to motivate the principles and stages of treatment in liver cirrhosis depending on its evolutionary phase;• to formulate conclusions and comment on the possible complications of primary biliary cholangitis;• to apply the differentiation criteria for primitive cholangitis and autoimmune hepatitis.	<ol style="list-style-type: none">2. Liver cirrhosis. Positive and differential diagnosis, prognostic scores, complications, prophylaxis.3. Treatment of liver cirrhosis of different aetiology (etiological, pathogenetic).4. Treatment of liver cirrhosis complications (portal hypertension, ascites, spontaneous bacterial peritonitis, hepatic encephalopathy, hepato-renal syndrome).5. Primary biliary cholangitis. Definition, aetiology, pathogenesis, clinical picture.6. Primary biliary cholangitis. diagnosis, complications, treatment, prophylaxis, prognosis.7. Primary sclerosing cholangitis. Definition, classification, aetiology, pathogenesis, clinic.
Theme (chapter) 7. Alcohol-related liver disease. Metabolic dysfunction-associated steatotic liver disease. Inherited metabolic liver disease.	
<ul style="list-style-type: none">• to define the notion of alcohol-related liver disease, metabolic dysfunction-associated steatotic liver disease and inherited metabolic liver disease;• to know the classification, aetiology, pathogenesis and clinical picture;• to know and justify the clinical, laboratory and instrumental diagnostic methods;• to know the particularities and apply the differentiation criteria;• to integrate into medical practice the methods of diagnosis, treatment, and prophylaxis in alcohol-related liver disease, metabolic dysfunction-associated steatotic liver disease and in hereditary liver diseases.	<ol style="list-style-type: none">1. Alcohol-related liver disease. Definition, classification, aetiology, pathogenesis, clinical picture. positive and differential diagnosis, complications, treatment, prophylaxis, prognosis.2. Alcoholic hepatitis. Positive and differential diagnosis, complications, treatment, prophylaxis, prognosis.3. Metabolic dysfunction-associated steatotic liver disease. Definition, classification, aetiology, pathogenesis, clinic.4. Metabolic dysfunction-associated steatotic liver disease. Positive and differential diagnosis, treatment, prophylaxis, prognosis.5. Hereditary liver diseases (hemochromatosis, Wilson's disease and alpha1 antitrypsin deficiency). Definition, aetiology, pathogenesis, clinical picture, diagnosis, complications, treatment, prophylaxis, prognosis
Theme (chapter) 8. Clinical observation paper, group project and individual student work.	



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<ul style="list-style-type: none">• to know the basic essence of the patient's clinical observation paper;• to have skills for conversation with the patient;• to know the clinical, laboratory and instrumental diagnostic elements for establishing the clinical diagnosis;• to have the skills for making a clinical observation file by writing the anamnesis, the history of the disease, the personal and hereditary antecedents, physical examination, as well as for the writing argumentation of the preliminary diagnosis, program of investigations, assessment of result of paraclinical examination, perform differential diagnosis, clinical diagnoses with argumentation and treatment;• to know the deontological and ethical rules during the examination and treatment of patients.	<ol style="list-style-type: none">1. Clinical observation paper - legal and medical element for diagnosis and treatment of patients;2. The primary examination of the patient - presumptive of diagnosis and argumentation of the diagnosis;3. Clinical thinking - necessary element to establish the diagnosis and differentiate with other pathologies;4. Medical ethics and deontology - elements strictly necessary in the treatment of patients in order to prevent the disclosure of medical secrets.5. Working with the bibliography when preparing a group project.

VIII. PROFESSIONAL (SPECIFIC (SC)) AND TRANSVERSAL (TC) COMPETENCES AND STUDY FINALITIES

✓ **Professional (specific) (SC) competences**

- SC1. Responsible execution of professional tasks using the values and norms of professional ethics, as well as the regulations of the legislation in force
- SC2. Adequate knowledge of the sciences about anatomy, the physiological functions, and the behaviour of the human body in various physiological and pathological states, as well as the existing relationships between the state of health, the physical and the social environment
- SC3. Solving clinical cases by developing the diagnosis, treatment and rehabilitation plan for various diseases and selecting the appropriate therapeutic procedures for them, including the insurance of emergency medical assistance
- SC4. Promoting a healthy lifestyle, applying preventive measures and self-care
- SC5. Multidisciplinary teamwork team and efficient use of all the resources
- SC6. Carrying out scientific research in the health field and other branches of science

✓ **Transversal competences (TC)**

- TC1. Autonomy and responsibility in the medical activity

✓ **Study finalities**

Upon completion of the course, the student will be able to:

- To know the evolutionary peculiarities (clinical and paraclinical) of digestive diseases;
- To understand the methodology of differential diagnosis of gastrointestinal and liver diseases;



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- To know the role of clinical, laboratory and imaging investigations in the positive and differential diagnosis of diseases of the digestive system;
- To be competent to prescribe personalized treatment for patients with digestive diseases;
- To be able to deduce the interrelationships between gastroenterology and other medical disciplines (internal medicine, surgery, oncology, haematology, etc.) by performing differential diagnosis and interdisciplinary clinical synthesis;
- To be able to learn the new achievements of gastroenterology.

Note. Discipline finalities (are deduced from the professional competences and the formative valences of the informational content of the discipline).

IX. STUDENT'S SELF-TRAINING

No.	Expected product	Implementation strategies	Assessment criteria	Implementation terms
1.	Working with the informational resources	<p>Reading the lecture and the material in the textbook to the theme carefully.</p> <p>Reading the questions on the subject, which require a reflection on the subject.</p> <p>To get acquainted with the list of additional informational sources on the topic.</p> <p>Selecting the source of additional information for that theme.</p> <p>Reading the text entirely, carefully and writing the essential content.</p> <p>Generalizing and concluding regarding the importance of the theme / subject.</p>	Ability to extract the essentials; interpretative skills; the workload.	Throughout the module
2.	Working with the on-line material	Studying on-line materials on the WEB page of the discipline and on other sites with specialized databases and literature.	Presentation of results in practical lessons and seminars	Throughout the module
3.	Use of different methods of learning	<p>Additional documentation in the library.</p> <p>Work with online materials.</p> <p>Study from manual.</p> <p>Documentation on</p>	The volume of work, the level of insight into different subjects, the level of scientific argumentation, the quality of the conclusions, the elements of creativity, the	Throughout the module



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		specialized electronic platforms. Consultations. Other activities.	demonstration of the understanding of the problem, the demonstration of the clinical reasoning, the practical abilities, the formation of the personal attitude	
4.	Examination of patients during practical lessons and night shifts	Patient examination, correct assessment of the data obtained from the patient's examination, from the laboratory and instrumental examination; acquisition of diagnostic tactics, differential	Correct formulation and argumentation of the patient's diagnosis, investigation plan and treatment plan.	Throughout the module
5.	Preparation and presentation of the essays	Selecting the theme of the presentations / reports and terms of achievement.	The volume of work, the degree of understanding the essence of the presentation / essay, the level of argumentation, the quality of the conclusions, the elements of creativity, the formation of personal attitude, the graphic presentation, the way of presentation.	Throughout the module
6.	Preparing and supporting a group project - clinical case	The clinical and paraclinical examination of a patient, the individual investigation and treatment plan, the establishment and argumentation of the presumptive and clinically final diagnosis, the indication of the individualized treatment. Establishing presentation components /PowerPoint project.	Workload. Abilities of analysis, synthesis and generalization o the data obtained through self-work. Abilities to extract the essence of different subjects. Ability to generate conclusions. Formation of personal attitude. Mode of presentation.	Throughout the module

X. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

• Teaching and learning methods used

The discipline of **Internal Medicine. Gastroenterology** is taught classically: with lectures and practical lessons. At the lectures, the theoretical course will be taught. Practical lessons consist of:

Treating the patient. The student treats 4-5 patients daily under the supervision of a lecturer or an experienced doctor. Also, the student introduces data in the



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observation files and makes extracts from the observation files, the medical certificates, and other medical documents. Presents the patients to the visits of the head of the department, the lecturer, and the teacher. Participates in paraclinical examinations (radiography, endoscopy, etc.) and consultations with specialists. At CUSIM, students will work with standardized patients according to the clinical scenarios that correspond to each topic.

The daily notes in the observation files are to be checked and signed by the lecturer or clinician.

The lecturer visits the patient with each student by checking the student's skill in collecting the anamnesis, physical examination of the patient, completing the clinical observation file, making the diagnosis, indicating the treatment, etc. Particular attention will be paid to clinical thinking, differential diagnosis, and treatment (drug choice, doses, recipe, polypharmacy etc.).

The student studies the particularities of disease progression in the treated patients and the effectiveness of the treatment. In lethal cases student attends an autopsy and participates in clinical-anatomical conferences.

Seminars. At the seminars is being discussed and analysed the most important chapters of internal medicine, such as the aetiology of diseases, pathophysiology, clinical picture, differential diagnosis and diagnosis, treatment, prophylaxis, and expertise in work capacity.

The lesson is in the form of a discussion, during which the lecturer appreciates the students' knowledge, and explains the unclear material.

At the end of each chapter, the lecturer generalizes.

Analysing clinical cases. For analysis, will be selected patients with complicated diseases or patients with rare pathology, which are of theoretical and practical interest.

Will be analysed the particularities of the evolution of the disease and the causes of the atypical development of the disease. Diagnosis will be argued, and a differential diagnosis made. Treatment with the reasoning and argument. Will be discussed methods of prevention of the disease. CUSIM is done according to simulating scenario with a standardized patient.

Night shift in the clinic. Throughout **Internal Medicine. Gastroenterology** each student makes two-night shifts in the clinic, during which, together with the doctor on duty, makes the evening visit of the patients, if necessary, corrects the treatment, provides emergency medical help, improves knowledge in the field diagnosis and differential diagnosis, upgrade practical skills, etc.

At the morning conference (the next day after the night shift) student reports on the patients hospitalized during the night shift, the change in the clinical condition of the severely ill patients and those under supervision, the provision of emergency medical assistance, the work with the guard staff.

Clinical conferences. The students actively participate in the conferences organized according to the clinic's plan with reference reports on actualities in internal medicine, illustrating material, and presenting the patients with complicated pathologies in the diagnostic and differential diagnosis plan.

The didactic and research activity consists of preparation by the students of the reports from various domains of internal medicine, illustrative materials, synthesis reports, participation with communications at clinical conferences, scientific and practical conferences etc.



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- **Applied** (specific to the discipline) **teaching strategies / technologies**
"Group interview"; "Case study"; "Round table", "Working in pairs", "Clinical project".
Practical work on the patient's bed. Standardized patient with simulated scenario at CUSIM.

- **Methods of assessment** (including the method of final mark calculation)

✓ **Current:** frontal and/or individual control by:

- discussion
- analysis of clinical cases;
- solving the problems/clinical cases;
- application of docimological tests;
- control works.

In the discipline of **Internal Medicine. Gastroenterology** students' knowledge will be evaluated daily, and the note will be announced at the end of each practical lesson.

✓ **Final:** Passing the exam

Passing exam in the discipline of Internal Medicine. Gastroenterology consists of 4 stages:

- Media average
- Practical skills
- American test
- Oral interview with coefficient respective 0.3; 0.2;0.2;0.3

Method of mark rounding at different assessment stages

Intermediate marks scale (annual average, marks from the examination stages)	National Assessment System	ECTS Equivalent
1,00-3,00	2	F
3,01-4,99	4	FX
5,00	5	E
5,01-5,50	5,5	
5,51-6,0	6	
6,01-6,50	6,5	D
6,51-7,00	7	
7,01-7,50	7,5	C
7,51-8,00	8	
8,01-8,50	8,5	
8,51-9,00	9	B
9,01-9,50	9,5	
9,51-10,0	10	A

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The average annual mark and the marks of all stages of the final examination (computer-assisted, test, oral) - are expressed in numbers according to the mark scale (according to the table), and the final mark obtained is expressed in numbers with two decimals, which is transferred to student's record-book.

Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to have two re-examinations for the failed exam.

XI. RECOMMENDED LITERATURE:

A. Compulsory:

1. HARRISON'S Gastroenterology and Hepatology. Derived from Harrison's Principles of Internal Medicine, 20th Edition Ed. Dan L. Longo, 2018.
2. Sleisenger and Fordtran's Gastrointestinal and Liver Disease, 2 Volume Set: Pathophysiology, Diagnosis, Management, 11th Edition. 2020
3. Sitaraman and Friedman's Essentials of Gastroenterology 2nd Edition. 2018. By [Shanthi Srinivasan](#) (Editor), [Lawrence S. Friedman](#) (Editor)
4. Courses

B. Additional.

1. Davidson's Principles and Practice of Medicine, 23rd Edition, 2018 Edited by Brian R. Walker.
2. Schiff's Diseases of the Liver (Schiff's Diseases of the Liver) 12th Edition, 2018. [Eugene R. Schiff](#) (Editor), [Willis C. Maddrey](#) (Editor), [K. Rajender Reddy](#) (Editor).