

## PA 8.5.1 SYLLABUS

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**FACULTY OF MEDICINE NB II**  
**PROGRAM STUDY 0912.1 MEDICINĂ**  
**DEPARTMENT OF INTERNAL MEDICINE**  
**DISCIPLINE OF GASTROENTEROLOGY**

APPROVED

APPROVED

At the meeting of commission of Quality

At the Council Meeting of

Evaluation of Analytical program Faculty medicine Nb II  
Extract from minutes no 1 of 16.09.2021

Faculty of Medicine NbII

Extract from minutes no 1 of 21.09. 2021

Head of commission

Dean of the Faculty of Medicine NbII

PhD, associate professor

PhD, associate professor,

Suman Serghei

Bețiu Mircea

APPROVED

At the meeting of Discipline of Gastroenterology,

Department of Internal Medicine

Extract from minutes no 2 of 16.09.2021

Head of Department

PhD, associate professor,

Tcaciuc Eugen

## Syllabus

(Analytical program)

**Discipline INTERNAL MEDICINE. GASTROENTEROLOGY**

**Integrated studies**

Type of course: **Compulsory discipline**

**Chisinau 2021**



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### I. PRELIMINARY

General presentation of the discipline: the place and role of the discipline in the formation of the specific competences of the professional / specialty training program

- Discipline *Internal Medicine. Gastroenterology* is an integrative, interdisciplinary, corrective clinical medical discipline, the study of which at 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.

The mission of the curriculum (purpose) in vocational 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, timely treatment and prophylaxis of gastrointestinal and hepatobiliary diseases, development of clinical reasoning and medical synthesis - defining elements in the training of physician.
- Language of teaching of discipline: Romania, Russian, English, French;
- Beneficiary: students of 5-year, Faculty of Medicine

### II. MANAGEMENT OF THE DISCIPLINE

Code of the course		<b>S.10.O.085</b>	
Name of the course		<b>Internal Medicine. Gastroenterology</b>	
Discipline managers		<b>Eugen Tcaciuc, PhD, associate professor</b> <b>Elina Berliba, PhD, associate professor</b>	
Year	<b>5</b>	Semester	<b>9-10</b>
<b>Total number of hours</b>			<b>150</b>
Course	<b>30</b>	Practical lessons	<b>30</b>
Seminar	<b>30</b>	Individual work	<b>60</b>
Form of evaluation	<b>E</b>	Number of credits	<b>5</b>



### III. TRAINING OBJECTIVES OF THE DISCIPLINE:

*At the end of the course, the student will be able to:*

- **at the level of 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 way of transfer of patients to specialized departments;
  - to know the incidence, etiology 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 of gastroenterological and liver diseases;
  - to know the prophylaxis methods of chronic and acute pathologies of the digestive organs.
- **at the level of application:**
  - apply theoretical knowledge in professional and social life;
  - collect and evaluate correctly the complains and the anamnesis data;
  - perform correct physical examination of patients with different digestive pathologies;
  - make correct presumptive diagnosis;
  - apply methods of investigation necessary to confirm the diagnosis;
  - estimate the results of paraclinical and instrumental investigations;
  - assess the severity of patient's general state;
  - establish the final diagnosis;
  - selecting and prescribing the correct treatment according to the established diagnosis;
  - provide emergency care in critical situations.
  - completing and drafting the medical documents;
  - elaborating the scientific research projects in the field of gastroenterology
- **at the level of integration:**
  - to appreciate the role of digestive diseases in medicine and integration with related medical disciplines;
  - to assess the evolution of physiological processes, etiology 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 gaining experience in diagnosis, differential diagnosis and treatment in gastroenterology;
  - to master the new achievements in the gastroenterology discipline.
  - to be able to assimilate new trends in the gastroenterological and liver diseases field and to integrate them in other medical disciplines.



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### IV. CONDITIONS AND PREREQUISITES

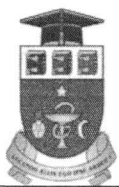
For the good acquisition of the discipline **Internal Medicine. Gastroenterology** requires deep knowledge in the field of disciplines studied in previous years (medical semiology, internal medicine, pathological anatomy and histology, normal and pathological physiology, surgery, oncology, radiology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

### V. THEMATIC AND ORIENTATIVE DISTRIBUTION OF HOURS

*Courses (lectures), practical lessons and individual work.*

Nr. d/o	TOPICS	Number of course		
		Lectures	Practical lesson	Individual work
1.	Gastroesophageal reflux disease. Definition, classification, etiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis, complications, treatment, prevention, prognosis. Barrett esophagus. Esophageal Motility Disorders (Esophageal spasm, Achalasia). The differential diagnosis.	2	4	4
2.	Acute and chronic gastritis. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, treatment, prevention, prognosis.	2	4	4
3.	Peptic ulcer. Definition, etiology, classification, factors of aggression, factor of protection, pathogenesis, clinical features, positive and differential diagnosis. Complications. Drug treatment and non-pharmacological therapy. Prevention and prognosis.	2	4	4
4.	Chronic pancreatitis. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, complication, treatment, prevention, prognosis.	2	4	4
5.	Small bowel pathology. Syndrome of malabsorption. Definition, classification, etiology, clinical feature, positive diagnosis. Diarrhea, definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis. Gluten enteropathy. Definition, classification, etiology, pathogenesis, clinical feature, diagnosis, treatment, prevention, prognosis.	2	4	4
6.	Inflammatory bowel disease. Crohn's disease and Ulcerative Colitis. Definition, classification, etiology, pathogenesis, clinical features, positive and differential diagnosis, complications, treatment, prevention, prognosis. Pseudomembranous colitis.	2	4	4
7.	Functional disorders of gastrointestinal tract. Functional disorders of the esophagus, stomach and bowel. Definition, classification, etiology, pathogenesis, clinical features, alarm sign, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis. Functional disorders of gallbladder and sphincter of Oddi - definition, classification, etiology, 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, etiology, pathogenesis, clinical feature, positive and differential diagnosis.	2	4	4





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Nr. d/o	TOPICS	Number of course		
		Lectures	Practical lesson	Individual work
	complications, prevention, prognosis. Treatment of chronic viral hepatitis B and D.			
9.	Chronic viral hepatitis type C. Definition, etiology, 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, etiology, 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.	Alcoholic liver disease. Definition, classification, etiology, 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 Associated Fatty Liver Disease. Definition, classification, etiology, pathogenesis, clinical features, positive and differential diagnosis, treatment, prevention, prognosis.	2	4	4
14.	Primary Biliary Cholangitis, Primary Sclerosing Cholangitis, Cholangitis associated with IgG4. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis. Autoimmune Hepatitis. Definition, classification, etiology, pathogenesis, clinical features, diagnosis, treatment, prognosis. CUSIM (standardized patients with simulated clinical scenarios).	2	4 (CUSIM 2)	4
15.	Inherited metabolic liver disease (Hemochromatosis, Wilson's disease, $\alpha$ (1)-antitrypsin-deficiency). Definition, etiology, pathogenesis, clinical features, diagnosis, complications, treatment, prevention, prognosis. CUSIM (standardized patients with simulated clinical scenarios).	2	4 CUSIM	4
		30	60 (10 CUSIM)	60
<b>Total</b>		<b>150</b>		



## VI. PRACTICAL MANEUVERS ACQUIRED AT THE END OF THE COURSE

### The essential practical skills are:

- General and local objective examination in the pathology of the digestive organs
- General inspection of the patient suffering from digestive tract pathology with identification of clinical signs and symptoms according to the respective pathology
- 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, 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 digestive hemorrhage (esophageal 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-induced liver disease, chronic pancreatitis)
- Calculation and interpretation of Truelove / Witts scores to assess activity degree in ulcerative colitis
- Calculation and evaluation of the activity index in Crohn disease after W. Best
- Interpretation of the stool characteristics using the Bristol scale
- Determining and interpreting changes in blood count, urine, immunobiochemical indices, acid-base balance, coagulogram.
- Interpretation of laboratory test results (specific to digestive pathology) biochemical blood, urine, faeces, gastric and duodenal contents.
- Reading of the results of functional examination of the esophagus, stomach, liver, gallbladder, bile ducts, pancreas, small intestine and large intestine.
- Comprehension of esophageal and gastric pH metrics results.
- Understanding the radiological examination of the esophageal-gastrointestinal tract and the hepato-biliary system.
- Interpretation of histopathological examination results (esophagus, stomach, liver, intestine).



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- Reading superior endoscopy, colonoscopy, rectomanoscopy, endoscopic retrograde cholangiopancreatography, laparoscopy results.
- Ultrasound examination of the organs of the abdominal cavity.
- Drawing up a plan for paraclinical investigations for a patient with digestive pathology
- Performing a diagnostic synthesis in digestive pathology
- Formulation of the presumptive and clinical diagnosis
- Completion of the medical file of the patient with gastroenterological pathology
- 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

## VII. REFERENCE TARGETS AND CONTENT UNITS.

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

- **define** the syndrome discussed in each theme;
- **to know:**
  - detailing the syndrome, which includes pathophysiology, semiology, modern methods of investigation, meaning of the syndrome for nosology diagnosis;
  - the diseases that are manifested by concerned syndrome;
  - the incidence, modern aspects of etiology and pathogenicity of the diseases discussed in each subject;
  - the clinical and paraclinical (laboratory and instrumental) diagnosis of each nosology entity with its arguments;
- **to demonstrate the ability:**
  - to perform the clinical and paraclinical (laboratory and instrumental) diagnosis of each nosology entity with its arguments;
  - to perform the differential diagnosis and its argumentation;
  - to develop the clinical diagnosis (basic disease, complications and comorbidities);
  - to draw up the paraclinical examination plan with its argumentations;
  - to draw up the personalized treatment plan (basic illness and comorbidities) with its argumentations;
- **to apply:**
  - knowledges and practical skills learned;
  - algorithm of diagnosis, differential diagnosis and treatment in emergencies cases;
  - knowledge regarding the elaboration of medical documentation (observation sheet, stage epicrisis, transfer and discharge, extract from the observation sheet, statistical data sheet).
- **to integrate** knowledge in the fields of fundamental, preclinical and clinical disciplines.

Objectives	Content units
<b>Topic 1.</b> Gastroesophageal reflux disease. Definition, classification, etiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis, complications, treatment, prevention, prognosis. Barrett esophagus. Esophageal Motility Disorders (Esophageal spasm, Achalasia). The differential diagnosis.	
• to define the fundamental concepts of gastroesophageal reflux disease, Barret's esophagus, cardiac achalasia, stomach and bowel;	1. Gastroesophageal reflux disease. Definition, classification, etiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis,



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- to know the research methods in esophageal pathology;
- to demonstrate skills of analysis and systematization of knowledge in esophageal pathology;
- to apply the criteria for differentiating pathological conditions of the esophagus (gastroesophageal reflux disease, achalasia, Barret esophagus);
- to integrate in medical practice the methods of diagnosis, treatment and prophylaxis in esophageal pathology.

complications, treatment, prevention, prognosis.

2. Barrett esophagus. Definition, classification, etiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis, complications, treatment, prevention, prognosis.
3. Esophageal Motility Disorders (Esophageal spasm, Achalasia). Definition, classification, etiology, pathogenesis, clinical features, positive diagnosis, differential diagnosis, complications, treatment, prevention, prognosis.

**Topic 2** Acute and chronic gastritis. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, treatment, prevention, prognosis.

Peptic ulcer. Definition, etiology, classification, factors of aggression, factor of protection, pathogenesis, clinical features, positive and differential diagnosis. Complications. Drug treatment and non-pharmacological therapy. Prevention and prognosis.

- 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;
- 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

1. Acute and chronic gastritis. Definition, classification, etiology, pathogenesis,
2. Acute and chronic gastritis - clinical picture, positive and differential diagnosis, complications.
3. Acute and chronic gastritis, treatment, prophylaxis, prognosis.
4. Peptic ulcer. Definition, etiology, pathogenesis (factor of aggression and defense)
5. Peptic ulcer. Clinical picture, positive diagnosis, differential diagnosis.
6. Peptic ulcer. Complications. Drug and non-drug treatment. Prevention and prognosis.

**Topic 3.** Chronic pancreatitis. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, complication, treatment, prevention, prognosis. Functional disorders of gastrointestinal tract. Functional disorders of the esophagus, stomach, and bowel. Definition, classification, etiology, pathogenesis, clinical features, alarm sign, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis. Functional disorders of gallbladder and sphincter of Oddi - definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.



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- to define the notion of chronic pancreatitis;
- to define the notion of functional disorders of the esophagus, stomach, biliary tract and bowel;
- to know the classification, etiology, 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 esophagus, 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 their interactions with other systems and organs;

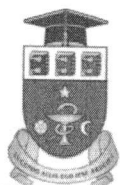
1. Chronic pancreatitis. Definition, classification, etiology, pathogenesis, clinical feature.
2. Chronic pancreatitis. Positive and differential diagnosis, complication, treatment, prevention, prognosis.
3. Functional disorders of the esophagus. Definition, classification, etiology, pathogenesis, clinical features, alarm sign, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis.
4. Functional disorders of the stomach. Definition, classification, etiology, pathogenesis, clinical features, alarm sign, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis.
5. Functional disorders of gallbladder and sphincter of Oddi - definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.
6. Functional disorders of the bowel. Definition, classification, etiology, pathogenesis, clinical features, alarm sign, criteria of diagnosis, differential diagnosis, treatment, prevention, prognosis.

**Topic 4.** Small bowel pathology. Diarrhea, definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis. Syndrome of malabsorption. Definition, classification, etiology, clinical feature, positive diagnosis. Gluten enteropathy. Definition, classification, etiology, pathogenesis, clinical feature, diagnosis, treatment, prevention, prognosis. Inflammatory bowel disease. Crohn's disease and Ulcerative Colitis. Definition, classification, etiology, pathogenesis, clinical features, positive and differential diagnosis, complications, treatment, prevention, prognosis. Pseudomembranous colitis.

- 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;

1. Small bowel pathology. Syndrome of malabsorption. Definition, classification, etiology, clinical feature, positive diagnosis.
2. Diarrhea, definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.
3. Gluten enteropathy. Definition, classification, etiology, pathogenesis, clinical feature,





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- to demonstrate skills of analysis and systematization of knowledge in the pathology of the small intestine and large intestine;
- 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.

4. Gluten enteropathy. Diagnosis, treatment, prevention, prognosis.
5. Inflammatory bowel disease. Crohn's disease and Ulcerative Colitis. Definition, classification, etiology, pathogenesis, clinical features.
6. Inflammatory bowel disease. Crohn's disease and Ulcerative Colitis. positive and differential diagnosis, complications, treatment, prevention, prognosis.
7. Pseudomembranous colitis. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.

**Topic 5.** Chronic viral hepatitis type B, D. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, prevention, prognosis. Treatment of chronic viral hepatitis B and D.

Chronic viral hepatitis type C. Definition, etiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, prevention, and prognosis. Treatment of chronic viral hepatitis C.

Autoimmune Hepatitis. Definition, classification, etiology, pathogenesis, clinical features, diagnosis, treatment, prognosis.

- 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 chronic viral hepatitis.

1. Chronic viral hepatitis type B, D. Definition, classification, etiology, pathogenesis, clinical feature.
2. Chronic viral hepatitis type B, D. Positive and differential diagnosis, complications, prevention, prognosis.
3. Treatment of chronic viral hepatitis B and D.
4. Chronic viral hepatitis type C. Definition, etiology, pathogenesis, clinical feature.
5. Chronic viral hepatitis type C. Positive and differential diagnosis, complications, prevention, and prognosis.
6. Treatment of chronic viral hepatitis C.
7. Autoimmune Hepatitis. Definition, classification, etiology, pathogenesis.
8. Autoimmune Hepatitis. Clinical features, diagnosis, treatment, prognosis.

**Topic 6.** Liver cirrhosis. Definition, classification, etiology, 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.





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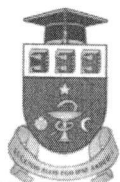
Liver cirrhosis. Complications of liver cirrhosis: ascites (uncomplicated and refractory) and hepatic hydrothorax; spontaneous bacterial peritonitis; renal impairment in liver cirrhosis; hepatic encephalopathy – pathogenesis, clinical features, diagnostic and treatment. Primary Biliary Cholangitis, Primary Sclerosing Cholangitis, Cholangitis associated with IgG4. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis

- to define the notion of liver cirrhosis;
- to define the notion of Chronic Cholangitis, primary biliary cholangitis, Primary Sclerosing Cholangitis, Cholangitis associated with IgG4 and Autoimmune Hepatitis.
- to know the anatomy and physiology of the liver and biliary tract;
- to know the classification, etiology, pathogenesis and clinical picture;
- to know the laboratory and instrumental diagnostic methods in establishing the diagnosis of liver cirrhosis, Chronic Cholangitis, primary biliary cholangitis, Primary Sclerosing Cholangitis, Cholangitis associated with IgG4 and Autoimmune Hepatitis.
- to motivate the appearance of severe complications in case of liver cirrhosis;
- to comment on the possible complications of Chronic Cholangitis, Primary Biliary Cholangitis, Primary Sclerosing Cholangitis, Cholangitis associated with IgG4 and Autoimmune Hepatitis.
- apply the differentiation criteria in liver cirrhosis and its complications;
- to apply the criteria for differentiating different pathologies of the biliary tract;
- to motivate the directions and stages of treatment in liver cirrhosis depending on its evolutionary phase;
- to formulate conclusions;
- to motivate the directions and stages of treatment of Chronic Cholangitis, Primary Biliary Cholangitis, Primary Sclerosing Cholangitis, Cholangitis associated with IgG4, and Autoimmune Hepatitis.

1. Liver cirrhosis. Definition, classification, etiology, pathogenesis, clinical feature.
2. Liver cirrhosis. positive and differential diagnosis, prognostic scores, prevention, prognosis.
3. Treatment of liver cirrhosis in dependence of etiology.
4. Portal hypertension and its complications in liver cirrhosis – pathogenesis, clinical features, diagnosis, prevention and therapy.
5. 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.
6. Primary Biliary Cholangitis. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.
7. Primary Sclerosing Cholangitis. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.
8. Cholangitis associated with IgG4. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, treatment, prevention, prognosis.

**Topic 7.** Alcoholic associated liver disease. Definition, classification, etiology, pathogenesis, clinical feature, positive and differential diagnosis, complications, treatment, prevention, prognosis. Acute alcoholic hepatitis, pathogenesis, clinical features, diagnosis, treatment, prognosis.

Metabolic Associated Fatty Liver Disease. Definition, classification, etiology, pathogenesis, clinical features, positive and differential diagnosis, treatment, prevention, prognosis.



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Inherited metabolic liver disease (Hemochromatosis, Wilson's disease,  $\alpha$  (1)-antitrypsin-deficiency). Definition, etiology, pathogenesis, clinical features, diagnosis, complications, treatment, prevention, prognosis.

- to define the notion of alcoholic liver disease, non-alcoholic fatty liver and inherited metabolic liver disease;
- to know the classification, etiology, pathogenesis and clinical picture;
- to know and motivate clinical, laboratory and instrumental diagnostic methods;
- to know the particularities and to apply the differentiation criteria;
- to integrate in medical practice the methods of diagnosis, treatment and prophylaxis in alcoholic liver disease, non-alcoholic fatty liver and in inherited metabolic liver disease.

- a. Alcoholic associated liver disease. Definition, classification, etiology, pathogenesis, clinical feature. Positive and differential diagnosis, complications, treatment, prevention, prognosis.
2. Acute alcoholic hepatitis, pathogenesis, clinical features, diagnosis, treatment, prognosis.
3. Metabolic Associated Fatty Liver Disease. Definition, classification, etiology, pathogenesis, clinical features
4. Metabolic Associated Fatty Liver Disease. Positive and differential diagnosis, treatment, prevention, prognosis.
5. Inherited metabolic liver disease (hemochromatosis, Wilson's disease,  $\alpha$ 1-antitrypsin-deficiency). Definition, etiology, pathogenesis, clinical features, diagnosis, complications, treatment, prevention, prognosis.

### Topic 8. Clinical observation file, group project and individual student work.

- to know the basic essence of the patient's clinical observation file;
- 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.

1. Clinical observation file - legal and medical element for diagnosis and treatment of patients;
2. The primary examination of the patient - initial method of thinking and argumentation 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.



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### VIII. PROFESSIONAL COMPETENCE (SPECIFIC (SC) and TRANSVERSAL (TC)) AND PURPOSE OF STUDY.

#### Professional competence (specific) (SC)

SC1. Responsible execution of professional tasks with the application of the values and norms of professional ethics, as well as the provisions of the legislation in force

SC2. Adequate understanding of the sciences about the structure of the body, the physiological functions and behavior of the human body in various physiological and pathological conditions, as well as the relationships between health, physical and social environment

SC3. Resolving clinical situations by developing a plan for diagnosis, treatment and rehabilitation in various pathological situations and selecting appropriate therapeutic procedures for them, including the provision of emergency medical care

SC4. Promoting a healthy lifestyle, applying prevention and self-care measures.

SC5. Interdisciplinary integration of the doctor's activity in a team with efficient use of all resources

SC6. Efectuarea cercetărilor științifice în domeniul sănătății și în alte ramuri ale științei.

#### Transversal competences (TC)

TC1. Autonomy and responsibility in the activity

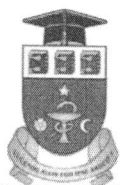
#### The purpose of study of the discipline

- To know the evolutive peculiarities of digestive diseases;
- To know the methodology of differential diagnosis of gastrointestinal and liver diseases;
- To know the role of clinical, laboratory and instrumental investigations in the positive and differential diagnosis of diseases of the digestive system;
- Be competent to prescribe personalized treatment to patients with digestive diseases;
- To be able to deduce the interrelationships between gastroenterology and other medical disciplines (internal medicine, surgery, oncology, hematology, etc.) performing the differential diagnosis and interdisciplinary clinical synthesis;
- To be able to learn daily the new achievements of gastroenterology.

**Note.** The purpose of study of the discipline are deduced from the professional competences and the formative valences of the informational content of the discipline.

### IX. INDIVIDUAL WORK OF THE STUDENT.

Nr.	The expected product	Implementation strategies	Evaluation criteria	Deadline
1.	Work with informational sources	Read the lecture and the material in the textbook to the theme carefully.	Ability to extract the essentials; interpretative skills; the volume of work.	Throughout the module



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		<p>Read 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>Select the source of additional information for that theme.</p> <p>Reading the text entirely, carefully and writing the essential content.</p> <p>Wording of generalizations and conclusions regarding the importance of the theme / subject.</p>		
2.	Work with 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.	Application of different methods of learning		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 demonstration of the understanding of the problem, the demonstration of the clinical reasoning, the practical abilities, the formation of the personal attitude	Throughout the module
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 diagnosis and individual treatment.	Correct formulation and argumentation of the patient's diagnosis, investigation plan and treatment plan.	Daily, Throughout the module
5.	Preparation and presentation of the essays	Selecting the theme of the presentations / reports and the terms of the achievement.	The volume of work, the degree of penetration in the essence of the presentation / essay, the level of argumentation, the quality of the conclusions, the elements of creativity, the formation of the personal attitude, the graphic presentation, the way of presentation.	Throughout the module
6.	Preparing and supporting a	The clinical and paraclinical examination of a patient, the individual investigation and		



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	group project - clinical case	treatment plan, the establishment and argumentation of the presumptive and clinically final diagnosis, the indication of the individualized treatment. Establishing presentation components /PowerPoint project.		
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### X. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-EVALUATION

#### • *Teaching and learning methods used*

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

Treating the patient. The student treats 4-5 patients daily under the supervision of a lecturer or an experienced doctor. Introduce data in the observation files, make the 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, the teacher. Participate in paraclinical examinations (radiography, endoscopy, etc.) and consultations of specialists. At CUSIM, students will work with standardized patients according to the clinical scenarios that correspond to each topic.

The daily evolutions and other 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, complete the clinical observation file, make the diagnosis, indicate the treatment, etc. Particular attention will be paid to clinical thinking, differential diagnosis, treatment (drug choice, doses, recipe, polypragmasia 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, participates in clinical-anatomical conferences.

Seminars. At the seminars is being discussed and analyzed the most important chapters of internal medicine, such as the etiology 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 lecture appreciates the students' knowledge, explains the unclear material.

At the end of each chapter, the lecturer makes a generalization.

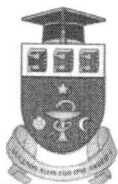
Analyzing clinical cases. For analysis, will be selected patients with complicated disease or patients with rare pathology, which are of theoretical and practical interest.

Will be analyzed 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 the disease. In CUSIM is done according to simulating scenario with standardized patient.

Night shift in the clinic. Throughout the course of ***Internal Medicine. Gastroenterology*** each student makes two-night shift 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 night shift) student reports on the patients hospitalized during night shift, the change of the clinical condition of the severe ill patients and those under supervision, the provision of emergency medical assistance, the work with the guard staff.





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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, presenting the patients with complicated pathologies in the diagnostic and differential diagnosis plan.

The didactic and research activity consists in the 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.

- **Applied didactic strategies / technologies (discipline-specific):**

"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 how to calculate the final grade):**

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

✓ **Final:** passing exam.

At the end of the course, students are assessed by practical exam including patient's examination in clinic with real patients or in CUSIM with simulating scenario with standard patient, test and oral exam. 100 minutes are given for the test (1 minute per question). Tests have several variants of 100 questions. Each student who didn't recover the absences and didn't pass the practical exam are not admitted to the final exam.

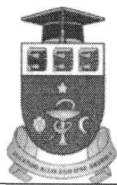
Passing exam in the discipline of Internal Medicine. Gastroenterology consists of 4 stages:

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

### How will be round up the grades at the evaluation steps

Intermediate marks (media average, practical exam, american test)	National mark system	Equivalent ECTS
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	B
8.51-9.00	9	
9.01-9.50	9.5	A
9.51-10.0	10	





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The average annual mark and the scores of all the final examination (computer assisted, test, oral) - all will be expressed in numbers according to the scoring scale (according to the table), and the final grade obtained will be expressed in two decimal digits will be transferred to the notes book.

*Failure to take the exam without good reason is recorded as "absent" and is equivalent to a grade of 0 (zero). The student is entitled to 2 repeated exams of the non-promoted exam.*

### XI. RECOMMENDED LITERATURE:

#### *A. Compulsory:*

1. HARRISON'S Gastroenterology and Hepatology. Derived from Harrison's Principles of Internal Medicine, 20est 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)

#### *B. Additional.*

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