



Faculty of Medicine

الجامعة الهاشمية



The Hashemite University

Syllabus: Digestive System Module (111501302)

First Semester 2025 /2026

COURSE INFORMATION	
Course Name: Digestive System Module Semester: First Department: Department of Microbiology, Pathology, and Forensic Medicine Faculty: Faculty of Medicine	Course Code: 111501302 Section: All Core Curriculum: MD Program
Day(s) and Time(s): Tuesday 11-11-2025 to TBD Classroom: <u>Lectures:</u> Alharith auditorium <u>Labs:</u> Faculty of Medicine labs	Credit Hours: 6 Prerequisites: None

COURSE DESCRIPTION
The Gastrointestinal tract (GIT) System is an intensive, multidisciplinary six-credit-hour course, with 56 lectures included. This course aims to cover all the clinically relevant and significant aspects of the gastrointestinal system and provide the fundamental concepts in several GIT- related topics. Students will be introduced to the anatomy and histology of the GIT and the physiology of gastrointestinal motility, digestion, and metabolism. Moreover, the lecture sessions will discuss the fundamental basic science concepts of important pathologies of the GIT, including diseases of the hepatobiliary system and the pancreas and several relevant pharmacological treatments. Theoretical and practical sessions will be taught in an integrative approach.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- The course will be delivered through a combination of active learning strategies. These will include:
 - PowerPoint lectures and active classroom-based discussion
 - Practical laboratories
 - Relevant films and documentaries
- E-learning resources: e-reading assignments and practice quizzes through Model and Microsoft Team

FACULTY INFORMATION

Name	Dr. Amany Swilam (Course coordinator)
Academic Title:	Assistant Professor
Office Location:	Faculty of Medicine, 2nd floor, Room 3015
Telephone Number:	5373
Email Address:	amany@hu.edu.jo
Office Hours:	Sunday 11:00am – 1:00 pm Tuesday 11:00am – 1:00 pm <i>Please send an e-mail (amany@hu.edu.jo) to meet at any other time. You can also contact me through Microsoft Teams</i>
Topic	Instructor(s)
Pathology	Dr. Dua Abuquteish (dua@hu.edu.jo)
Anatomy	Dr. Amany Allam (amany@hu.edu.jo) Dr. Mustafa Saad (mustafas@hu.edu.jo)
Pharmacology	Dr. Arwa Al-Anber (arwaa@hu.edu.jo)
Microbiology	Dr. Hala Tabl (halaa_mo@hu.edu.jo)
Physiology	Dr. Iman Aolymat (imank@hu.edu.jo) Dr. Gehan Alwakeel (gehan@hu.edu.jo)
Biochemistry	Dr. Ahmed Salem (asalem@hu.edu.jo)
Community Medicine	Dr. Muhannad Ramadan
Clinical Lectures	Dr. Fadia Alghzawi Dr. Motaz Massad

REFERENCES AND LEARNING RESOURCES

- Principles of Human Anatomy latest edition.
- Clinical Anatomy for Medical Students, latest edition.
- Atlas of Human Anatomy Basic Histology. latest edition. Before we are born. latest edition
- Textbook of Medical physiology. By Guyton & Hall, latest edition.
- Harper's Biochemistry Harper's Biochemistry, latest edition.
- Robbins Basic Pathology, latest edition (10th edition)
- Medical Microbiology. An Introduction to Infectious Diseases. latest edition.
- Lippincott illustrated Reviews Pharmacology, 8th edition
- Supplementary Departmental Handouts

STUDENT LEARNING OUTCOMES MATRIX

Program Learning Outcomes	Course Objectives	Course Student Learning Outcomes	Assessment Method
		Pathology	
D1 D5 E2	Upon successful completion of this course, the students should be able to: 1. Describe the gross structural and functional anatomy of each digestive organ. 2. Recognize the microscopic appearance of different parts of the digestive system and the normal embryology development with their congenital abnormalities. 3. Describe the function of each GIT structure. 4. Explain how neuronal mechanisms and GIT hormones regulate gastrointestinal, pancreatic, and biliary functions. 5. Describe the major types of nutrients. 6. Explain how proteins, carbohydrates, and fats are	Lecture 1: Oral and salivary gland Diseases • Describe the etiology, and pathogenesis of oral diseases • Provide a brief account of infectious/inflammatory diseases of the salivary glands. • List the most important salivary gland tumors and briefly describe their pathology. Lecture 2: Esophageal diseases, including GERD • Describe the main acquired anatomic disorders of the esophagus with emphasis on achalasia, webs/rings, and hiatal hernia, in terms of etiology, pathogenesis, and pathologic features. • Mention the cause, pathologic features, and clinical significance of esophageal varices. • Describe the pathogenesis of reflux disease (GERD) and other types of esophagitis. • Indicate the importance of Barrett's esophagus as an example of a pre-malignant lesion of the esophagus. • Describe the main tumors of the esophagus (adenocarcinoma and squamous carcinoma) Lecture 3: Gastritis & peptic ulcer • Describe gastritis (Helicobacter pylori-induced gastritis & drug-induced gastritis) in terms of pathogenesis, pathologic features, and complications.	• Exams • Exams • Exams

digested and absorbed. 7. Identify and describe the major disease processes including neoplasms and malabsorption conditions affecting different organs of GIT in terms of pathogenesis, gross and microscopic changes, manifestations, and complications. Identify various bacterial, viral, fungal, and parasitic infections affecting GIT, and describe the principal manifestations, diagnosis, treatment, and prevention of each microorganism and parasitic agent affecting GIT. Describe the mechanisms of action, pharmacokinetics, indications, and adverse effects of commonly used drugs in treating GIT disorders (vomiting, peptic ulcer disease, constipation, and diarrhea). Describe the essential nutritional requirement, body weight and energy balance, nutritional deficiencies, and disease processes associated with diet. Understand the clinical differences in the toxic effect of drugs on the liver and the management of some important drug-induced liver injury cases. Identify the Public health issues associated with the common gastrointestinal diseases and colon cancer epidemiology Correlate	- Describe peptic ulcer disease in term of etiology, pathogenesis, types, and pathological features. - Describe other types of gastric ulcerations.	
	Lecture 4: Gastric polyps and gastric carcinomas and malignancies - Describe the two types of gastric adenocarcinoma - Describe the Risk Factors, Gross & Microscopic Features, Spread & Prognosis of Gastric Adenocarcinoma. - Identify the main types of gastric lymphoma. - Describe GIST and understand the underlying molecular alterations.	Exams
	Lectures 5, 6, and 7: Disease of the small and large intestine - Briefly, discuss the main developmental anomalies and intestinal obstruction of the small and large intestine (ex. Meckel's diverticulum and Hirschsprung's disease) - Colonic ischemia, diverticulosis, angiodysplasia, and haemorrhoids. - Describe malabsorption in terms of causes, clinical significance, and complications. - Understand the pathology of celiac disease and its clinical significance. Also, other differentials including tropical sprue and Whipple disease.	Exams
	Lecture 8: Inflammatory Bowel disease - Describe the Types, Etiology, and Pathologic, Endoscopic & Clinical Features of Chronic Inflammatory Bowel Disease (IBD). - Identify the Differences between Crohn's disease & Ulcerative colitis - Complications and clinical sequelae of IBD	Exams
	Lecture 9: Intestinal polyps and colorectal cancer - Describe the Types & Pathological Features of Different Intestinal Polyps - Describe the Adenoma-Carcinoma Sequence & The Two- Hit Hypothesis of Development of Colorectal Carcinoma - Describe the Familial Forms of Colorectal Cancer (Lynch and FAP), Pathological Features, Spread, And Stages & Prognosis.	Exams
	Lectures 10: Precision Medicine and Artificial Intelligence Applications in Gastrointestinal Malignancies Understand how precision medicine customizes treatment for gastrointestinal cancers based on genomic and molecular profiling. Describe how artificial intelligence and machine-learning are being applied in gastrointestinal diseases for diagnostics, prognostics and therapy selection.	Exams

	the basic biomedical knowledge to the clinical skills <u>B-Critical thinking skills:</u> 1-Observe, identify, and predict health problems based on previous experience and make decisions based on evidence rather than opinion 2- Draw conclusions about the collected data (inference). 3- Maintain good communication habits, such as active listening and respect. 4- Improve problem-solving skills. 5- Demonstrate knowledge of resources and tools available to support lifelong learning	Lecture 11: Liver injury, cirrhosis, and hepatic failure - Describe the general morphologic and functional patterns of hepatic injury - Understand the different liver diseases manifestation and terminology. - List the main causes of acute and chronic hepatic failure and describe the pathogenesis, pathologic features, and complications of this disorder. - Define cirrhosis and describe the pathologic features and complications of this condition	Exams
		Lectures 12 and 13: Common liver diseases and hepatic tumors - Discuss the pathogenesis & pathologic manifestations of alcohol liver disease. - Describe the other (non-Alcohol) and non-infectious causes of hepatitis, including Drug Induced Liver Diseases. - Briefly describe the Pathological Effects of Metabolic & Inherited Liver Diseases (Hemochromatosis, Wilson disease, alpha-1-antitrypsin deficiency, and others) - Cholestatic liver diseases (PSC and PBC) - Hepatic adenomas and liver tumors	
		Lecture 14: Gallbladder and pancreatic diseases - Discuss the disorders of the gallbladder with emphasis on cholelithiasis, cholecystitis and tumors. - Describe the causes, pathogenesis, and pathologic feature of different forms of acute and chronic pancreatitis - Pancreatic adenocarcinoma pathogenesis, molecular pathways, and prognosis	Exams
		Anatomy	
D1 D5 E2		Lecture 1: Anatomy of Mouth, tongue, teeth: - Outline the parts & functions of GIT. - Understand the general structure of digestive tract wall. - Describe the anatomy of oral cavity (parts, structure, blood & lymph vessels, motor, and sensory supply). - Briefly describe the teeth (types & structure). - Describe the gross features & histology of tongue. - Describe muscles & movements of tongue, blood & nerve supply, lymphatic drainage	Exams
		Lecture 2: Anatomy and Histology of Salivary glands - Outline the types & function of minor and major salivary glands. - Describe location, shape, facial sheaths & gross features of major salivary glands (parotid, submandibular and sublingual glands). - Understand the relations, blood & nerve supply, and lymph drainage of the major salivary glands. - Describe the histology of the major salivary glands.	Exams

		Lecture 3: Anatomy of palate, pharynx, and esophagus - Describe the parts and structure of palate. - Understand the muscles, movements, blood & nerve supply and lymph drainage of soft palate. - Describe the extension, relations, and parts of pharynx. - Describe muscles, blood & nerve supply, and lymph drainage of pharynx. - Describe the extension, parts, relations, blood & nerve supply, and lymph drainage of esophagus.	Exams
		Lecture 4: Anatomy of peritoneum - Describe the parts and reflection of peritoneum. - Describe the parts of peritoneal cavity (lesser & greater sacs). - Describe the ligament and folds of the anterior abdominal wall. - Describe the peritoneal omenta, folds, recesses, Gutter & pouches. - Understand the blood & nerve supply, and lymph drainage of peritoneum.	Exams
		Lecture 5: Anatomy of the Stomach - Describe the location, shape, opening, surfaces, parts, and relations of stomach. - Understand the blood & nerve supply and Lymph drainage of stomach	Exams
		Lecture 6: Histology of Esophagus and Stomach - Describe the histology of esophagus - Describe the general layout of the wall of the stomach. - Identify the various cells of the gastric epithelium and understand their main features. - Recognize the main histological differences between the regions of the stomach.	Exams
		Lecture 7: Histology of small and large Intestine - Describe the general layout of the wall of the small intestine. - Identify the various cells of the small intestinal epithelium and understand their main features. - Recognize the main histological differences between the parts of the small intestine (duodenum, jejunum, and ileum). - Describe the general layout of the wall of the large intestine. - Identify the various cells of the large intestinal epithelium and understand their main features. - Recognize the main histological features of main parts of large intestine (colon, appendix, and anal canal).	Exams
		Lecture 8: Anatomy of pancreas & duodenum - Describe the location, parts and relations, blood & nerve supply, and lymph drainage of pancreas. - Describe the histology of pancreas. - Describe the parts of small intestine. - Understand the relation of the four parts of duodenum, blood & nerve supply, and lymph drainage of duodenum.	Exams

		Lectures 9 and 10: Anatomy of small & large intestine - Describe the parts of small intestine. - Describe the gross features, blood & nerve supply, and lymph drainage of jejunum & ileum. - Outline the parts of large intestine. - Describe the location, relation, blood & nerve supply and the lymph drainage of the appendix, colon, and rectum. - Describe location, internal features, relations, sphincters, blood & nerve supply and lymph drainage and histology of anal canal. - Outline the location and causes of the internal & external hemorrhoid and anal fissure.	Exams
		Lectures 11 and 12: Anatomy histology of the Liver, Gallbladder, and biliary tree - Describe the location, surfaces, fissures, lobes, and peritoneal covering of the liver. - Describe the relations, blood & nerve supply, and lymphatic drainage of the liver. - Describe the parts, location, relations, blood & nerve supply, and lymph drainage of gallbladder. - Describe the biliary tree and its relations. - Describe the histology of the liver. - Describe the histology of the gall bladder. - Describe the histology of biliary tree.	Exams
		Lecture 13: Development of the Digestive System - Describe the formation of gut tube. - Outline the derivatives of foregut, midgut, and hindgut	Exams
		Pharmacology	
D1 D5 E2		Lecture 1: Antiemetic drugs affecting gastric motility - Describe the mechanism of drug- induced vomiting. - List drug classes employed as antiemetic's & the mechanism of action each class. - Understand nausea and vomiting treatment in pregnancy. - Explain the clinical implications of drugs on gastric emptying.	Exams
		Lecture 2: Drugs used in GERD and peptic ulcer disease - Describe the mechanism of action of drugs or groups of drugs commonly employed in the management GERD. - Enumerate the adverse effects of drugs commonly used in GERD. - Describe the pharmacotherapy options for treatment of GERD during pregnancy.	Exams
		Lectures 3 and 4: Drugs used in peptic ulcer disease - List major drugs associated with GI ulceration - Describe the mechanism of action of drugs or groups of drugs commonly employed in the management of peptic ulcer disease. - Explain the rationale behind the use of drug combination in peptic ulcer disease.	Exams

		- List important antimicrobial drugs employed in peptic ulcer disease & explain the therapeutic basis of their inclusion in the management of peptic ulcer disease. - Enumerate the adverse effects of drugs commonly used in peptic ulcer disease. - Describe the pharmacotherapy options for prophylaxis of stress-related mucosal bleeding.	
		Lecture 5: Laxatives - Review the physiological aspects of normal bowel habits. - List the major classes of drugs employed as laxatives & describe their mechanism of action. - Acknowledge the indications and contraindications of laxatives. - Indicate the specific adverse effects associated with the commonly used laxative agents.	Exams
		Lecture 6: Antidiarrheal drugs - Describe the therapeutic aims of antidiarrheal drugs. - List the major classes of antidiarrheal drugs & describe their mechanism of action. - Indicate the major adverse effects possibly encountered in patients using antidiarrheal drugs.	Exams
		Lecture 7: Irritable bowel syndrome (IBS) and inflammatory bowel diseases (IBD) - Describe mechanism, uses and adverse effect drugs used in irritable bowel syndrome and inflammatory disease. - Understand the non-pharmacological management for IBS and IBD patients.	Exams
		Lecture 8: Treatment of hepatic encephalopathy and liver cirrhosis - Describe mechanism of drugs causing various types of hepatic diseases. - Describe the therapeutic beneficial effects of some drugs used in treatment of hepatic encephalopathy and liver cirrhosis.	Exams
		Microbiology	
D1 D5 E2		Lecture 1: Gastritis & Helicobacter pylori - Describe morphology and cultural characters of Helicobacter pylori. - Understand the virulence factors and pathogenesis of Helicobacter and its role in gastritis. - Identify laboratory diagnosis & treatment options of Helicobacter infection.	Exams
		Lecture 2: Bacterial infections of GIT I - Enumerate important bacterial GIT infections. - Describe morphology, culture, pathogenesis, Laboratory diagnosis and treatment options of Salmonella, Shigella, - Diarrheagenic <i>E. coli</i> and Campylobacter.	Exams
		Lecture 3: Bacterial infections of GIT II Describe morphology, culture & pathogenesis of Vibrio cholerae.	Exams

		- Identify laboratory diagnosis & treatment options of <i>Vibrio cholerae</i>. - Differentiate between different microbial causes of food poisoning. - Recognize laboratory diagnosis of food poisoning.	
		Lecture 4: Viral causes of diarrhea - Enumerate Viral causes of diarrhea. - Recognize the structure, pathogenesis, epidemiology, laboratory diagnosis & control of Rota viruses, Adenoviruses, 40 & 41 Norwalk, Coronaviruses & Enteroviruses.	Exams
		Lecture 5: Viral Hepatitis - Enumerate types of hepatitis viruses. - Understand the general characters pathogenesis, clinical presentation, laboratory diagnosis, prevention and treatment of HAV, HBV, HCV, HDV and HEV.	Exams
		Lecture 6: Parasitic diseases of GIT I - Enumerate important intestinal trematodes & cestodes and identify their general characters. - Describe the morphology, life cycle, pathogenesis, epidemiology, laboratory diagnosis & treatment of <i>Schistosoma mansoni</i>, <i>Fasciola</i>, <i>Taenia</i>, <i>echinococcus granulosus</i>, and Hydatid disease.	Exams
		Lecture 7: Parasitic diseases of GIT II - Enumerate important intestinal nematodes and identify their general characters. - Describe the morphology, life cycle, pathogenesis, epidemiology, laboratory diagnosis & treatment of <i>Ascaris lumbricoides</i>, <i>Ancylostoma duodenale</i>, <i>Strongyloides</i>, and <i>Enterobius vermicularis</i>.	Exams
		Lecture 8: Parasitic diseases of GIT III - Enumerate important protozoal infections of GIT. - Describe the morphology, life cycle, pathogenesis, epidemiology, laboratory diagnosis & treatment of <i>Entamoeba histolytica</i>, <i>Giardia lamblia</i>, <i>Balantidium coli</i> and <i>Cryptosporidium parvum</i>.	Exams
		Physiology	
D1 D5 E2		Lecture 1: Overview of GIT motility I - Understand the general principles of gastrointestinal function, including the coordination of mechanical, chemical, and neural processes involved in digestion, absorption, and waste elimination. - Explain the structure and function of the enteric nervous system (ENS), including the roles of the myenteric and submucosal plexuses in regulating motility, secretion, and blood flow. - Describe the importance of gap junctions in facilitating synchronized contractions across muscle layers to support coordinated peristalsis and effective gastrointestinal motility. - Identify the role of interstitial cells of Cajal (ICCs) as pacemakers that generate slow waves to regulate rhythmic contractions of smooth muscle cells in the GI tract.	Exams

		5. Explain the electrical basis of gastrointestinal contractions and how slow waves interact with action potentials to produce effective muscle contractions. 6. Recognize the influence of key excitatory and inhibitory neurotransmitters, such as acetylcholine and nitric oxide, on gastrointestinal motility. 7. Identify key hormones like gastrin, cholecystokinin (CCK), and motilin, and describe their roles in regulating smooth muscle contractions, sphincter control, and gastric emptying. 8. Differentiate between various motility patterns in the GI tract, such as peristalsis, segmentation, and tonic contractions, and explain their contributions to digestion, nutrient absorption, and waste movement. 9. Describe the cephalic, gastric, and intestinal phases of gastrointestinal motility regulation, and how each phase coordinates responses to sensory inputs and hormonal signals. 10. Recognize common gastrointestinal motility disorders, such as gastroparesis and irritable bowel syndrome (IBS), and explore the physiological basis and potential treatment approaches for each.	
		Lecture 2: Overview of GIT motility II 1. Identify the role of the autonomic nervous system in controlling gastrointestinal (GI) motility. 2. Explain the effects of sympathetic and parasympathetic innervation on GI motility. 3. Identify neuronally regulated GI reflexes involved in digestion and their physiological functions. 4. Describe the role of the enteric nervous system in regulating GI reflexes and motility patterns. 5. Identify the functional types of smooth muscle movements in the GI tract, including peristalsis and segmentation. 6. Describe the mechanism of each phase of swallowing: oral, pharyngeal, and esophageal. 7. Explain how each phase of swallowing is coordinated and regulated by the nervous system. 8. Identify factors that influence the regulation of blood flow to the GI tract. 9. Describe the role of hormones in modulating GI blood flow and motility. 10. Explain how local metabolic and chemical factors regulate GI blood flow during digestion.	• Exams
		Lecture 3: Mastication and swallowing 1. Define the primary functions of chewing in the digestive process. 2. Explain how chewing aids in breaking down food for digestion. 3. Describe the impact of chewing on food surface area and enzyme exposure. 4. Identify the neural mechanisms that control chewing movements. 5. Describe the role of the brainstem in coordinating chewing reflexes.	• Exams

		6. Explain the involvement of sensory feedback in adjusting chewing intensity and rhythm. 7. Define the process of swallowing and its importance in digestion. 8. Differentiate between the voluntary and involuntary phases of swallowing. 9. Identify the key structures involved in the swallowing process. 10. List and describe the three stages of swallowing (oral, pharyngeal, and esophageal). 11. Explain the specific role of each stage in safely transporting food from the mouth to the stomach. 12. Recognize how the stages of swallowing are coordinated to prevent aspiration. 13. Describe the role of the swallowing center in the medulla oblongata. 14. Identify the sensory and motor pathways involved in the swallowing reflex. 15. Explain how the nervous system coordinates the sequence of muscle contractions during swallowing.	
		Lecture 4: Esophageal motility, and gastric vomiting 1. Identify the stimulus and neural pathways that generate primary and secondary esophageal peristalsis. 2. Understand the major functions of the esophagus and associated structures in terms of protection and propulsion. 3. List the physiological events in gastric motility that occur in the gastric phase of digestion. 4. Discuss the mechanism of vomiting and its significance as a protective response.	Exams
		Lecture 5: Gastric and intestinal motility 1. Understand the Purpose of Gastric Motility 2. Explain the roles of mixing food with gastric secretions and controlling gastric emptying. 3. Describe Types of Gastric Movements 4. Differentiate between mixing and propulsive contractions in the stomach. 5. Identify Regulatory Mechanisms 6. Identify the different types of propulsive and mixing motility in small and large intestine and the regulation of these movements. 7. Explain the receptive relaxation and other gastrointestinal reflexes. 8. Define how the motility patterns of the colon subserve its function to desiccate (dehydrate) and evacuate the stool.	Exams
		Lecture 6: Gastric secretions & Pancreatic secretions 1. Describe the physiological role of various salivary glands. 2. Describe the mechanisms involved in the regulation of salivary secretion.	Exams

		- Describe the correlation between the composition and functions of salivary secretion. - Describe the various types of gastric cells and the secretion of each cell type. - Mention the components of gastric juice and the function of each component - Recognize the functional anatomy of the pancreas. - Describe the mechanism of pancreatic secretion from acinar cell. - Indicate the composition and the role of pancreatic juice (ductal fluid and digestive enzymes) under different physiological states. - Describe the activation of the pancreatic enzymes in the lumen of the small intestine. - Illustrate the neuroendocrine regulation of exocrine pancreatic secretion. - Understand the role of exocrine pancreatic secretion in intestinal digestion of nutrients. - Describe the response of pancreatic secretion to a meal	
		Lecture 7: Biliary and intestinal secretion - Describe the components of bile and intestinal secretions. - Indicate the function of each component secreted in bile and intestinal juice in digestion. - Recognize the mechanism that regulates bile synthesis and secretion. - Illustrate the regulation mechanisms involved in the secretion of intestinal fluid (mechanical, hormonal, and neural).	Exams
		Biochemistry	
D1 D5 E2		Lecture 1: Digestion and absorption of Carbohydrates - Identify the major monosaccharides, disaccharides, and polysaccharides found in the human body and diet. - Explain why ingested disaccharides and polysaccharides must be broken down into monosaccharides and describe how this is accomplished. - List the main digestive enzymes and describe their action on carbohydrate. - Describe how glucose is transported across intestinal epithelial cells and into the bloodstream and describe the proteins involved. - Describe the role of glucose transporters (GLUTs) in the transport of glucose into and out of cells, and tissue specific differences in the expression and regulation of GLUTs. - Explain the biochemical basis for the symptoms seen in lactose intolerance & congenital sucrase-isomaltase deficiency (CSID).	Exams
		Lecture 2: Digestion and absorption of lipids List the constituents of dietary lipids	Exams

		• Discuss the digestion of lipid in the stomach and small intestine. • Explain the role of lipases in lipid digestion. • Discuss the digestion of dietary cholesterol and phospholipid. • Discuss the absorption of lipid by the intestinal mucosal cells. • Discuss the resynthesize and secretion of lipid by the enterocytes. • Discuss the secretion of chylomicron by the enterocytes • List causes of steatorrhea.	
		Lectures 3 and 4: Digestion and absorption of proteins and liver function tests. Vitamin and mineral absorption and digestion • Discuss the digestion of protein in the stomach and intestine. • List and explain the function of the proteolytic enzymes. • Describe the activation of pancreatic zymogens and the roles of the active enzymes in protein digestion. • Describe the uptake of peptides and amino acids from the gastrointestinal tract. Note: in neonates the absorption of intact proteins. • List laboratory tests used to assess liver function • Describe the metabolism of bilirubin. • Distinguish between direct and indirect measurements of bilirubin and its implications for distinguishing the cause of the jaundice • Understand the role of Helicobacter in gastritis as well as laboratory diagnosis & sensitivity to antibiotics.	• Exams
		Community Medicine	
D1 D5 E2		Lectures 1 and 2: GIT public health issues • To better understand priority GIT disorders prevalence and burden. • To discuss the public health interventions and the evidence-based practices to address these problems.	• Exams
		Clinical Lectures	
D1 D5 E2		Lectures 1 and 2: Clinical aspect of digestive system disease • Introduction to some clinically relevant and common diseases of the digestive system. • Identify their signs and systems. • Gain basic knowledge about some of the medical investigations used. • Know treatment options.	• Exams

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Special Needs Section: Student Services and Care Unit

Tel: 053903333 ext. 4132 / 4583 / 5023

Location: Deanship of Students Affairs

Email: stydent@hu.edu.jo

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance.* It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. The Hashemite University expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- Use of the work, ideas, images or words of someone else without his/her permission or reference to them.
- Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.
- Misrepresentation of the sources that were used.

The instructor has the right to fail the coursework or deduct marks where plagiarism is detected

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

Absences from exams

If a student misses an examination, then he/she has the opportunity to do a make-up examination, according to the University Regulations. A student is not allowed to have a makeup exam unless he/she presents a valid excuse within 72 hours of the scheduled exam or when the excuse is lifted. The excuses are presented to the Excuse Committee, which has the right to accept or refuse the excuse. Only a student with an accepted excuse will be able to take the make-up exam. (The time and date of the makeup exams will be announced at the appropriate times).

Health and safety procedures

College members and students must at all times, conform to Health and Safety rules and procedures.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account.

Assessment	Grade Weighting	Approximate Time
Mid Exam	40%	TBD
Practical Exam	20%	TBD
Final Exam	40%	TBD

Description of Exams

Test questions will predominately come from the material presented in the lectures. The exam will consist of multiple-choice questions for the regular exams and short essay questions for makeup exams (for students with accepted excuses, only documented absences will be considered as per the Hashemite University guidelines).

Details of lectures included in the exam and the number of questions on each topic included are given at the end of this document.

Grades are not negotiable and are awarded according to the following criteria:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

Subject	Lecturer	Theoretical	Practical
Anatomy	Dr. Amany Swilam Dr. Mustafa Saad	13	5 (3 Anatomy + 2 Histology)
Physiology	Dr. Iman Olymat Dr. Gehan Alwakeel	7	-
Pathology	Dr. Dua Abuquteish	14	2
Microbiology	Dr. Hala Tabl	8	2
Pharmacology	Dr. Arwa Al-Anber	8	-
Biochemistry	Dr. Ahmad Salem	4	2
Community	Dr. Muhannad Ramadan	2	-
Clinical lectures	Dr. Motaz Massad Dr. Fadia Alghzawi	2	-
Total		58 Lectures	11 Labs