

International School of Medicine / Medicine (English)

2023 - 2024 Academic Year

Nutrition & Metabolism

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
Nutrition & Metabolism	09. Committee	Spring Semester	121+28	0	10
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Committee				
Course Coordinator	Prof.Dr. Mehmet KOÇAK				
Name of Lecturer(s)	Prof.Dr. Mehmet KOÇAK				
Assistant(s)	Not available				
Aim	The aim of this committee is to provide an understanding of the anatomy and histology of the organs that constitutes the digestive system, physiology of digestion and absorption, and biochemistry of protein, lipid and carbohydrate digestion.				
Course Content	This course contains; Anatomy of mouth cavity, tongue and salivary glands,Introduction to digestion physiology,Regulation of gastrointestinal functions,Pharynx and oesophagus, the stomach,Secretion of digestion system tracks,Digestion system (mouth, tongue, lips and esophagus),Digestion system 2 stomach and intestine, Periton and omentum, bursa omentalis, peritoni,Transportation of fluid and electrolyte in intestines/regulation of gastorintestinal functions,Digestion and absorption of proteins,Small and large intestine,Salivary glands,Liver and gallbladder,Digestion and Absorption of carbohydrates,Digestion and absorption,Digestion and absorption of lipids,The liver cells and related diseases,Gallbladder and bile ducts, pancreas, spleen and portal system,Gallbladder and bile ducts, pancreas, spleen and portal system,Digestion and absorption of lipids,Nutrition ,Arteries and veins of abdomen,Nutrition and Metabolism,Avitaminoses,anterior abdominal wall ,Digestion and absorption,LAB-Determination of amylase,Porphyrins and Bile Pigments,inguinalt&femoral tracts, their herniations,Histology,Development of digestion system,Nutrition and metabolism,Radiologic Anatomy,Gastrointestinal motality,Liver Function tests,Liver and Bile.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
Counts the histological structure of lips, cheeks, palate, tongue and teeth.					
Count and define the papillae in the tongue.					
Explain the taste buds.					
Count and identify the cells in the taste buds.					
Counts and identifies tongue glands.					
Explain the histological structure of dentin and enamel.					
Counts the features of cementum, pulp, periodontal membrane and gingiva structures.					
Interprets the microscopic images of the structures in the oral cavity.					
Explain the histological features of the pharynx.					
Counts and defines the layers of the esophagus.					
Interprets preparations and images related to esophagus and stomach.					
Counts the layers of the stomach and explains histological features.					
Count and identify the cells in the stomach glands.					
Counts the layers of the small intestine and explains histological features.					
Explain the structures of small intestine villi.					
Explains the structure of the small intestine glands and counts its cells.					
Explain Peyer's plaques and M cells.					
Counts enteroendocrine cells and their secretions.					
Counts the differences of the small intestine sections (duodenum, jejunum and ileum) from each other.					
Counts the layers of the large intestines and explains histological features.					
Counts the layers of the rectum and anal canal and explains histological features.					
Counts the layers of the appendix and explains histological features.					
Interprets preparations and images related to intestines and appendix.					
Explain the histological structures of salivary glands.					
Classifies the types of salivary glands and counts the differences.					
Explain the functions of salivary glands.					
Interprets preparations related to salivary glands.					
Explains the endocrine and exocrine parts of the pancreas together with its histophysiology.					
Counts the differences of the exocrine part of the pancreas from the parotid.					
Explain the development of endocrine pancreas.					
Lists the names, histological features and functions of endocrine pancreatic cells.					
Interprets preparations and images related to pancreas.					
Explain the liver capsule and liver hilum.					
Explains the blood circulation of the liver.					
Defines liver lobulation and functional lobules together with bile and blood flow.					
Defines the characteristics of hepatocytes as cellular.					
It describes the sinusoid and all the cells in the sinusoid wall.					
Defines the Disse range.					
It specifies the vena centralis and portal space structures together with the elements found.					
Explains the bile ducts.					
Evaluates the gallbladder wall sections cellularly.					
Interprets preparations and images related to liver, gallbladder and pancreas.					
Defines the primitive gut in the development of the digestive system.					

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Interprets the developmental information of the parts of the intestines.			
Foregut; It explains the development of the esophagus, the development of the stomach, the development of the duodenum, the development of the liver, gallbladder and biliary tract, the development of the pancreas and the development of the spleen.			
midgut; Rotation of the midgut loop explains the development of the cecum and appendix.			
Explains the development of jejunum and ileum.			
The last intestine; explains the colon, cloaca and anal system.			
Interprets the problems related to the development of the digestive system.			
Teaching Methods			
Assessment Methods			
Lecture Schedule			
Sequence	Topics	Preliminary Preparation	
1	Anatomy of mouth cavity, tongue and salivary glands		
2	Introduction to digestion physiology		
3	Regulation of gastrointestinal functions		
4	Pharynx and oesophagus, the stomach		
5	Secretion of digestion system tracks		
6	Digestion system (mouth, tongue, lips and esophagus)		
7	Digestion system 2 stomach and intestine		
8	Periton and omentum, bursa omentalis, peritoni		
9	Transportation of fluid and electrolyte in intestines/regulation of gastorintestinal functions		
10	Digestion and absorption of proteins		
11	Small and large intestine		
12	Salivary glands		
13	Liver and gallbladder		
14	Digestion and Absorption of carbohydrates		
15	Digestion and absorption		
16	Digestion and absorption of lipids		
17	The liver cells and related diseases		
18	Gallbladder and bile ducts, pancreas, spleen and portal system		
19	Gallbladder and bile ducts, pancreas, spleen and portal system		
20	Digestion and absorption of lipids		
21	Nutrition		
22	Arteries and veins of abdomen		
23	Nutrition and Metabolism		
24	Avitaminoses		
25	anterior abdominal wall		
26	Digestion and absorption		
27	LAB-Determination of amiyase		
28	Porphyrins and Bile Pigments		
29	inguinal&femoral tracts, their herniations		
30	Histology		
31	Development of digestion system		
32	Nutrition and metabolism		
33	Radiologic Anatomy		
34	Gastrointestinal motality		
35	Liver Function tests		
36	Liver and Bile		
Evaluation Methods		Weight(%)	
Midterm Exam		60	
General Exam		40	

Resources
Kierszenbaum A.: Histology & Cell Biology: An introduction to Pathology 2 ed. Mosby, USA. Ross M.: Histology: A Text and Atlas, 6 ed. Gartner L.P., Hiatt J.L.: Color Text Book of Histology. Second ed. SAUNDERS. Moore K.M., Persaud T.V.N. Çev. Ed: Yıldırım M., Okar İ., Dalçık H. Sadler T.W: Langman's Medical Embryology, Eleventh Edition. Lippincott Williams & Wilkins, USA Schoenwolf G.C.: Larsen's Human Embryology. 4. Ed. CHURCHILL LIVINGSTONE ELSEVIER