



Jordan University of Science and Technology
Faculty of Medicine
Doctor Of Medicine (Md) Department

MED230A Human Physiology

Second Semester 2023-2024

Course Catalog

3 Credit Hours. This course is designed to provide pharmacy students, nursing students, and allied health and medical technology students with the basic knowledge of cellular and systemic physiology and presents an introduction to the fundamentals of physiological principles required for their further education. The functions of the nervous, endocrine, digestive, musculoskeletal, circulatory, respiratory, and urinary systems are discussed.

Teaching Method: Blended

Text Book

Title	Fundamentals of Physiology by
Author(s)	L. Sherwood
Edition	8th Edition
Short Name	1
Other Information	

Instructor

Name	Dr. Doaa Al Udatt
Office Location	-
Office Hours	Sun : 10:00 - 13:00 Mon : 10:00 - 13:00 Tue : 12:00 - 14:00 Wed : 11:00 - 13:00
Email	dgaludatt@just.edu.jo

Class Schedule & Room

Section 1:

Lecture Time: Sun : 13:00 - 14:30

Room: مدرج الفاروق

Section 2:

Lecture Time: Mon : 14:30 - 16:00

Room: NG76

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	Course Introduction	From 1
Week 2	? Homeostatic mechanisms of major functional systems. ? Body fluids & fluid balance ? The plasma membrane structure & functions ? Overview of membrane transport (assisted & unassisted membrane transport)	From 1
Week 3	? Resting membrane potential ? Cardiac cycle & cardiac output & its control	From 1
Week 4	? Electrical activity & heart conduction system ? Blood vessel structure & function ? Blood pressure control	From 1
Week 5	? General organization of the nervous system - Functions of the cerebral cortex & EEG ? Peripheral nervous system - Autonomic nervous system	From 1
Week 6	? First exam ? Synaptic transmission & neuromuscular junction Dr. Othman	From 1
Week 7	? Structure of skeletal muscle ? Molecular basis of skeletal muscle contraction ? Eid al-Fitr	From 1
Week 8	? Graded and action potentials. ? Propagation of action potential along nerve fibers ? Introduction to the respiratory system - internal & external respiration	From 1
Week 9	? Respiratory mechanics ? Gas transport & exchange & control of respiration	From 1
Week 10	? Introduction to the urinary system; functions of the kidneys, nephrons & basic renal processes ? ? Second exam	
Week 11	? Glomerular filtration, tubular reabsorption, tubular secretion, urine excretion, & plasma clearance ? Composition & functions of plasma & plasma proteins	From 1
Week 12	? Structure, production, & function of erythrocytes ? Types & functions of leukocytes Platelet structure & function ? General aspects of digestion: organization & components of the digestive system & regulation of the basic processes	From 1
Week 13	? Pancreatic & biliary secretion, digestion & absorption ? Overview of the endocrine system - pituitary & thyroid hormones	From 1
Week 14	? Adrenal gland hormones & pancreatic hormones ? Hormonal regulation of calcium metabolism	
Week 15	o Revision	

o Final examination period	From 1
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Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
List the essential and required relationships between the tissues, organs, and organ systems.	15%	First-Exam, Second-Exam, Final-Exam
Explain and provide examples of your working knowledge of the human body's physiology, starting at the molecular level and moving up to the tissue, organ, and organ system levels.	15%	First-Exam, Second-Exam, Final-Exam
Distinguish between physiological function associated with illness and normal physiological activity.	12%	First-Exam, Second-Exam, Final-Exam
Describe physiological dysfunctions and their nature.	12%	First-Exam, Second-Exam, Final-Exam
Explain or illustrate physiological terms as they relate to the study of human physiology, using appropriate terminology.	15%	First-Exam, Second-Exam, Final-Exam
Explain human physiology and be able to decipher and comprehend information about medicine and physiology that can be obtained in both popular and professional journals as well as news sources.	16%	First-Exam, Second-Exam, Final-Exam
Identify and apply the student's understanding of human physiology to their chosen field of work.	15%	First-Exam, Second-Exam, Final-Exam

Relationship to Program Student Outcomes (Out of 100%)													
PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14

Evaluation	
Assessment Tool	Weight
First-Exam	30%
Second-Exam	30%
Final-Exam	40%

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