



Jordan University of Science and Technology
Faculty of Agriculture
Animal Production Department

AP712 Advanced Animal Physiology 2 - JNQF Level: 9

First Semester 2023-2024

Course Catalog

3 Credit Hours. This advanced physiology course introduces students in depth to three modules; namely renal, pulmonary and digestive systems. Renal physiology module covers anatomy and histology of vascular and tubular formations, glomerular filtration, and early to late filtrate processing, ending with long-term contribution of the kidney to blood pressure modulations. The pulmonary physiology module covers the anatomy and histology of lungs and pertinent tissues involved in pulmonary circulation and the processes of pulmonary ventilation and variant lung capacities. The pulmonary module also tackles the gas exchange principles across the respiratory membrane and describes rules of gas transport with blood and body fluids, and explains the nervous system control of respiration. The digestive system module discusses gross- and micro- anatomy of the digestive tract, mechanisms of secretory, fermentation, and motility activities, and ends with focus on digestion and absorption.

Teaching Method: On Campus

Text Book

Title	Textbook of Medical Physiology
Author(s)	A. C. Guyton and J. E. Hall
Edition	14th Edition
Short Name	Ref # 1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref # 2	Textbook of Veterinary Physiology	J. G. Cunningham and G. Klein	6th Edition	

Instructor

Name	Prof. Hosam Al-Tamimi
Office Location	-
Office Hours	

Email	hjaltamimi@just.edu.jo
-------	------------------------

Class Schedule & Room
Section 1: Lecture Time: Mon, Wed : 13:00 - 14:30 Room: LAB

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Renal Physiology: anatomy and histology - vascular & tubular formations	From Ref # 1 , From Ref # 2
Week 3	Renal Physiology: glomerular filtration, renal blood flow and its control	From Ref # 1 , From Ref # 2
Week 4	Renal Physiology: early filtrate processing	From Ref # 1 , From Ref # 2
Week 5	Renal Physiology: late filtrate processing	From Ref # 1 , From Ref # 2
Week 6	Renal Physiology: renal control of blood pressure, and renal dysfunction	From Ref # 1 , From Ref # 2
Week 7	Pulmonary physiology: anatomy & histology ? lung structure and pulmonary circulation	From Ref # 1 , From Ref # 2
Week 8	Pulmonary physiology: pulmonary ventilation, lung capacities	From Ref # 1 , From Ref # 2
Week 9	Pulmonary physiology: gas exchange ? atmospheric air/blood interface; physical principles of gas diffusion across respiratory membrane	From Ref # 1 , From Ref # 2

Week 10	Pulmonary physiology: gas transport in blood and body fluids	From Ref # 1, From Ref # 2
Week 11	Pulmonary physiology: nervous system control of respiration	From Ref # 1, From Ref # 2
Week 12	Pulmonary physiology: pulmonary dysfunction	From Ref # 1, From Ref # 2
Week 13	Digestive gross and micro-anatomy	From Ref # 1, From Ref # 2
Week 13	Mechanisms of control of the digestive system	From Ref # 1, From Ref # 2
Week 14	Gastric motility	From Ref # 1, From Ref # 2
Week 15	Gastric secretions	From Ref # 1, From Ref # 2
Week 16	Digestion and reabsorption	From Ref # 1, From Ref # 2

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Integrate and apply advanced physiological concepts [1SLO 1, 1SLO 2] [1L9K1, 1L9K2, 1L9K3, 1L9S1, 1L9S2, 1L9C2]	40%	
Analyze and interpret research data [1SLO 3, 1SLO 4] [1L9K3, 1L9S1, 1L9S2, 1L9C2, 1L9C5]	35%	
Translate physiological knowledge to animal field practice [1SLO 1, 1SLO 2, 1SLO 3, 1SLO 4] [1L9S1, 1L9S2, 1L9C2, 1L9C3, 1L9C4, 1L9C5, 1L9C6]	25%	

Relationship to Program Student Outcomes (Out of 100%)			
SLO 1	SLO 2	SLO 3	SLO 4
26.25	26.25	23.75	23.75

Relationship to NQF Outcomes (Out of 100%)									
L9K1	L9K2	L9K3	L9S1	L9S2	L9C2	L9C3	L9C4	L9C5	L9C6
6.67	6.67	13.67	17.24	17.24	17.24	3.57	3.57	10.57	3.57

Date Printed: 2024-10-26