



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

MED730 Advanced Human Physiology - JNQF Level: 6

First Semester 2024-2025

Course Catalog

3 Credit Hours. This course delves into the complex physiological processes of the human body, exploring the intricate systems that sustain life and maintain homeostasis. Key focus areas include the hematology, cardiovascular, respiratory, renal, gastrointestinal, endocrine, and nervous systems. Students will examine the molecular and cellular mechanisms underlying organ system functions and how these systems interact to support health and respond to disease. The course also covers advanced topics such as neurophysiology, hormonal regulation, and the physiological basis of human adaptation to various environmental conditions. Through lectures and case studies, students will understand the physiological principles that govern human health, preparing them for careers in healthcare, research, or advanced study in biomedical sciences. This course is ideal for students with a foundational knowledge of physiology seeking to deepen their understanding of human body systems. ****Prerequisites:**** A foundational course in human physiology or equivalent background in biological sciences is recommended.

Teaching Method: On Campus

Text Book

Title	REFERENCES : 1. Textbook of Medical Physiology by Guyton and Hall, recent edition,
Author(s)	Guyton
Edition	13th Edition
Short Name	Ref#2: 2. Review of Medical Physiology by Ganong.
Other Information	

Class Schedule & Room

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	1 22/07/2024 - Introduction, Overview on control systems in physiology - Body Fluids	
Week 2	2 29/07/2024 - Respiratory -Renal	

Week 3	3 05/08/2024 - Endocrine Physiology (I) - - First Exam	
Week 4	4 12/08/2024 19/08/2024 - - Endocrine Physiology (II) - GI Physiology	
Week 5	5 19/08/2024 - CNS Physiology (I) - CNS Physiology (II)	
Week 6	6 26/08/2024 - Second Midterm Exam (GI, and Endocrine) - CVS Physiology	
Week 7	7 02/09/2024 - Heamatology	
Week 7	REVISION	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
1. **Comprehend Complex Physiological Mechanisms** : Understand and explain the advanced mechanisms governing human body systems, including cardiovascular, respiratory, nervous, and endocrine systems. [1PLO1, 1PLO8] [1L6K1]	20%	
2. **Analyze Homeostatic Processes** : Analyze the principles of homeostasis and how different physiological systems interact to maintain internal balance in response to external changes. [1PLO1, 1PLO8] [1L6K2]	10%	
5. **Integrate Molecular and Cellular Physiology** : Integrate knowledge of molecular and cellular mechanisms with whole-body physiology, explaining how cellular processes contribute to the function of organs and systems. [1PLO1, 1PLO6] [1L6S1]	20%	
3. **Apply Pathophysiological Concepts** : Apply knowledge of physiological processes to understand the basis of common diseases and disorders, identifying the alterations in normal function. [1PLO4, 1PLO6] [1L6C2]	10%	
6. **Critically Evaluate Scientific Literature** : Critically evaluate current scientific literature in the field of human physiology, understanding recent advancements and ongoing research areas. [1PLO1, 1PLO12] [1L6K1, 1L6K2]	20%	
8. **Enhance Communication Skills** : Develop the ability to effectively communicate complex physiological concepts and research findings, both orally and in writing, to a range of audiences. [1PLO1] [1L6S1]	20%	

Relationship to Program Student Outcomes (Out of 100%)													
PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14
55			5		15		15				10		

Relationship to NQF Outcomes (Out of 100%)			
L6K1	L6K2	L6S1	L6C2
30	20	40	10

Evaluation	
Assessment Tool	Weight

First Exam	20%
Second Exam	20%
Final exam	50%
Evaluation	10%

Policy	
Policy of Advanced Human Physiology M 730	<p>### 1. Course Description This course covers advanced topics in human physiology, including cellular mechanisms, organ system functions, and integrative physiological processes. It is designed for students with a foundational knowledge of biology and physiology.</p> <p>### 2. Prerequisites Students must have completed introductory courses in biology and human physiology or have equivalent knowledge.</p> <p>### 3. Course Objectives - Understand complex physiological processes at the cellular, organ, and system levels. - Analyze and interpret physiological data. - Apply physiological principles to real-world scenarios and case studies.</p> <p>### 4. Textbooks and Materials REFERENCES : 1. Textbook of Medical Physiology by Guyton and Hall, twelfth or thirteen edition, 2010 2. Review of Medical Physiology by Ganong.</p> <p>### 5. Grading Criteria - Exams (First, Second and Final): 20%,20% and 50% - Participation: 10%</p> <p>### 6. Attendance and Participation Regular attendance and active participation are required. Absences may affect the participation grade. Notify the instructor in advance if you will miss a class.</p> <p>### 7. Late Work and Makeup Policy Late submissions will be penalized unless prior arrangements are made. Makeup exams/quizzes are available only for documented emergencies.</p> <p>### 8. Academic Integrity Students are expected to adhere to the highest standards of academic integrity. Any form of cheating, plagiarism, or dishonesty will result in disciplinary action, including a failing grade.</p>

Date Printed: 2024-10-24